

AGENDA

STATE BUILDING CODE TECHNICAL REVIEW BOARD

Friday, January 22, 2016 - 10:00 a.m.

Virginia Department of Professional and Occupational Regulation; Conference
Room 1A/1B, 9960 Mayland Drive, Henrico, Virginia

I. Roll Call (Tab 1)

II. Approval of October 16, 2015 Minutes (Tab 2)

III. Public Comment

IV. Approval of Final Order (Tab 3)

In Re: International Technology Industry, Inc.
Appeal No. 15-10

V. Appeal Hearing (Tab 4)

In Re: Appeal of Starr Construction, Inc.
Appeal No. 15-6

VI. Appeal Hearing (Tab 5)

In Re: Appeal of the City of Richmond
Appeal No. 15-12

VII. Appeal Hearing (Tab 6)

In Re: Appeal of the City of Richmond
Appeal No. 15-13

VIII. Secretary's Report (Tab 7)

STATE BUILDING CODE TECHNICAL REVIEW BOARD

Updated October 6, 2015

J. Robert Allen, CBO
Chairman
(Representing the Virginia
Building & Code Officials
Association)

James R. Dawson
Vice Chairman
(Representing the Virginia
Fire Chiefs Association)

Matthew Arnold
(Representing the American
Institute of Architects)

W. Keith Brower, Jr.
(Representing the
Commonwealth at large)

Vince Butler
(Representing the Virginia
Homebuilders Association)

J. Daniel Crigler
(Representing the Virginia
Plumbing-Heating-Cooling
Contractors Association)

John H. Epperson, PE
(Representing the Virginia
Society of Professional
Engineers)

Alan D. Givens
(Representing the Virginia
Plumbing-Heating-Cooling
Contractors Association)

Joseph A. Kessler, III
(Representing the Associated
General Contractors of Virginia)

John A. Knepper, Jr., PE
(Electrical Contractor)

Eric Mays, PE
(Representing the Virginia
Building & Code Officials
Association)

Joanne D. Monday
(Representing the Virginia
Building Owners and Managers
Association)

Patricia S. O'Bannon
(Representing the
Commonwealth at Large)

W. Shaun Pharr, Esq.
(Representing the Apartment and
Office Building Association of
Metropolitan Washington)

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DRAFT MINUTES

STATE BUILDING CODE TECHNICAL REVIEW BOARD MEETING

October 16, 2015

RICHMOND, VIRGINIA

Members Present

Mr. J. Robert Allen, Chairman
Mr. Vince Butler
Mr. J. Daniel Crigler
Mr. James R. Dawson
Mr. John H. Epperson, PE
Mr. John A. Knepper
Mr. Eric Mays
Ms. Joanne D. Monday
Ms. Patricia S. O'Bannon
Mr. W. Shaun Pharr, Esq.

Members Absent

Mr. Matthew Arnold
Mr. W. Keith Brower
Mr. Alan D. Givens
Mr. Joseph A. Kessler, III

Call to Order	The meeting of the State Building Code Technical Review Board ("Review Board") was called to order by the Chairman at approximately 10:00 a.m.
Roll Call	The attendance was established by Mr. Alan W. McMahan, Acting Secretary, and constituted a quorum. Mr. Justin I. Bell, Assistant Attorney General in the Office of the Attorney General, was present and serving as the Board's legal counsel.
Approval of Minutes	Mr. Epperson moved to approve the minutes of the August 21, 2015 meeting as presented in the Review Board members' agenda package. The motion was seconded by Ms. Monday and passed unanimously with Messrs. Brower and Crigler abstaining from the vote.
Public Comment	The Chairman opened the floor for public comment. The Secretary reported that no one was preregistered. The Chairman closed the public comment period.

Final Orders

Appeal of John Thulin; Appeal No. 15-2

After consideration, Mr. Mays moved to approve the final order as presented in the Review Board members' agenda package. The motion was seconded by Ms. O'Bannon and passed unanimously with Messrs. Brower and Crigler abstaining from the vote.

Appeal of Joseph E. Ellis; Appeal No. 15-4:

After consideration, Mr. Mays moved to approve the final order as presented in the Review Board members' agenda package. The motion was seconded by Mr. Epperson and passed unanimously with Messrs. Brower and Crigler abstaining from the vote.

Appeal of Justin Verville; Appeal No. 15-11;

Before taking any action on the final order, Mr. Dawson moved to recess the meeting and reconvene in executive session as authorized by § 2.2-3711(A)(7) of the Code of Virginia. The motion was seconded by Mr. Brower and passed unanimously.

(Executive closed session duration was approximately twenty minutes.)

The Chairman stated that the board would reconvene in open session. The Secretary called the roll and each board member responded with "yes" to certify that to the best of their knowledge only public business matters lawfully exempted from open meeting requirements were discussed or considered and that only such public business matters as were identified in the motion by which the executive closed meeting was convened were heard, discussed or considered in the closed meeting.

Following the closed session and prior to any action on the final order by the Review Board, Mr. Mays read the following statement into the record:

Appeal of Justin Verville: Appeal No. 15-11 (cont'd.):

Mr. Chairman and members of the Board, I would like to read a statement for the record before we vote on the Final Order.

I am going to vote against the Final Order because it is fatally flawed.

The Final Order states on Page 18 and 19 of the Board's package: "The Review Board finds that the appellant's proposed use of the educational wing as a school and daycare represents a continued use, and not a change of occupancy as defined above, primarily due to a lack of a certificate of occupancy to indicate otherwise. Moreover, the historical documentation provided by the appellant demonstrated that the long accepted use of the educational wing for short-term child care.

I want to address the first statement. Factually, all parties agree there is no Certificate of Occupancy for the Church's Education Wing. However, to conclude that a school and daycare represent a continued use because there is no Certificate of Occupancy is simply flawed logic.

The second statement says: "Moreover, the historical documentation provided by the appellant demonstrated the long accepted use of the education wing for short-term child care." First, I must ask what is "short-term child care." In terms of the Building Code it is an undefined term that is not applicable or defensible. However, if you choose to accept the words "short-term child care" it is clearly not equivalent to the operation of a full time day care that is open 5 days per week up to 12 hours per day for 24 children. Second, I must state to the contrary that all the evidence provided by the appellant only proved that the Church's Education Wing was used for a Church Nursery; and it is critical to note that the Building Code is

Appeal of Justin Verville; Appeal No. 15-11 (cont'd.):

very clear that a Church Nursery and a Day Care are considered different uses with two different levels of required public safety. No evidence or testimony was provided to substantiate that a Day Care was ever operated in the Church's Education Wing. If a Board member or staff can identify actual evidence that a Day Care was operated in the Church' Education Wing for 24 children over its 50 year history, I will vote in support of the Final Order.

I also want to bring to the Board's attention that there is a recent appeal case for a similar historic building in the same jurisdiction. There was a building constructed in the 1800's by a community organization for meetings and social gatherings. The current owner wanted to use the upper floor for a Night Club; however, a Certificate of Occupancy did not exist. The Night Club owner advocated that it was not a Change of Use because the social gatherings clearly involved alcohol and dancing at some point in the building's history. This Board denied that Appeal and upheld the Building Official that the Night Club represented a Change of Use.

Based on the fatal flaws of the Final Order and the lack of evidence or testimony to substantiate that a fully operational day care for 24 children ever operated in the building, I do not believe the Final Order as drafted is defensible in a Court proceeding. I would like to make the following three requests:

- 1. I request that the Attorney General's Office comment on my statement and concerns.*
- 2. I request the Board to vote against the Final Order as drafted.*
- 3. I request the Board make a motion to reconsider the Board's decision and deliberate the facts of case.*

Appeal of Justin Verville; Appeal No. 15-11 (cont'd.):

Thank you for listening to my concerns; and thank you for your consideration."

After further consideration, Ms. Monday moved to approve the final order as presented in the Review Board members' agenda package.

The motion was seconded by Mr. Dawson and passed with Mr. Mays and Ms. O'Bannon voting in opposition and Messrs. Brower and Crigler abstaining from the vote.

New Business

Appeal of International Technology Industry, Inc. (ITI);
Appeal No. 15-10:

An appeal hearing convened with the Chairman serving as the presiding officer. The appeal concerned the issue of whether there was a change of use of a commercial building as alleged by the Fairfax County Fire Marshal's Office.

The following persons were sworn in and given the opportunity to present testimony:

Bill Wang, with ITI
Rocco Alvaro, Fairfax County Fire Marshal's Office
Trice Burgess, Fairfax County Fire Marshal's Office
John Walser, Fairfax County Fire Marshal's Office

Also present were:

J. Cathryn Watson, Esq., counsel for ITI

The following exhibit was submitted by Fairfax County to supplement the documents in the Review Board members' agenda package:

Exhibit A – two non-residential use permits, an arrest report, a narrative supplemental report and a case initiation report

Appeal of International Technology Industry, Inc. (ITI);
Appeal No. 15-10 (cont'd.):

The Chairman ruled the exhibit out-of-order since it was not relevant to the specific issues under appeal.

During testimony, Fairfax County offered color versions of the black and white photos provided in the agenda package. The photos were accepted by the Chairman with agreement by ITI and were distributed to the Review Board members.

After testimony concluded, the Chairman closed the hearing and stated a decision from the Review Board members would be forthcoming and the deliberations would be conducted in open session. It was further noted that a final order reflecting the decision would be considered at a subsequent meeting and, when approved, would be distributed to the parties and would contain a statement of further right of appeal.

Decision – Appeal of International Technology Industry, Inc. (ITI);
Appeal No. 15-10:

After deliberation, Mr. Brower moved to uphold the decision of the Fairfax County Fire Marshal's Office that a violation of Statewide Fire Prevention Code Section 301.3 (Occupancy) exists in the commercial building owned by ITI.

Secretary's Report

The Acting Secretary provided to the Review Board members an update on the tentative schedule for upcoming meetings, and notified Review Board members that the conflict of interest training scheduled for the meeting had been rescheduled due to pending changes in the Conflict of Interest Act and its related training. Mr. Bell provided Review Board members with an update concerning recent circuit court decisions. Mr. McMahan then discussed with the Review Board members the language in its bylaws concerning appointment of a Board Secretary. Consequently, Mr. Epperson moved to appoint Mr. McMahan as Secretary to the Review Board. The motion was seconded by Mr. Crigler and passed unanimously.

State Building Code Technical Review Board
October 16, 2015 Minutes – Page Seven

Adjournment

There being no further business, the meeting was adjourned by motion of Ms. Monday at approximately 1:42 p.m.

Approved: _____

Chairman, State Building Code Technical Review Board

Secretary, State Building Code Technical Review Board

VIRGINIA:

BEFORE THE
STATE BUILDING CODE TECHNICAL REVIEW BOARD

IN RE: Appeal of International Technology Industry, Inc.
 Appeal No. 15-10

Hearing Date: October 16, 2015

DECISION OF THE REVIEW BOARD

I. PROCEDURAL BACKGROUND

The State Building Code Technical Review Board (Review Board) is a Governor-appointed board established to rule on disputes arising from application of regulations of the Department of Housing and Community Development. See §§ 36-108 and 36-114 of the Code of Virginia. The Review Board's proceedings are governed by the Virginia Administrative Process Act. See § 36-114 of the Code of Virginia.

II. CASE HISTORY

International Technology Industry, Inc. (ITI), a local business engaged in the wholesale of essential oils, appeals a citation by the Fairfax County Fire Marshal's Office (FCFMO) under the 2012 Virginia Statewide Fire Prevention Code (SFPC).

In March of 2015, the FCFMO, the County agency responsible for the enforcement of the State Fire Prevention Code (SFPC), conducted an inspection of a building owned by ITI, at 8245 Backlick Road, Suites C & D, in Lorton, Virginia. As a result of the inspection, the FCFMO issued a notice of violation to ITI under the 2012 edition of the SFPC regarding Sections 301.2 (Permits), 301.3 (Occupancy), 3201.2 (Construction documents), 5001.5.2 (Hazardous Materials Inventory Statement), and 5003.5 (Hazard identification signs).

2. Later in March of 2015, ITI filed an appeal of the notice to the Fairfax County Board of Building Code Appeals (County appeals board) which conducted a hearing in May of 2015 and ruled to uphold the notice.

3. ITI then further appealed only Sections 301.2, 301.3, and 3201.2 of the SFPC to the Review Board in June of 2015.

III. FINDINGS OF THE REVIEW BOARD

The current law addressing the Review Board's jurisdiction to hear appeals of the application of local fire prevention regulations, in § 27-98 of the Code of Virginia, states in pertinent part:

"Any local fire code may provide for an appeal to a local board of appeals. If no local board of appeals exists, the State Building Code Technical Review Board shall hear appeals of any local fire code violation."

The Fairfax County Fire Prevention Code, as established in §§ 62-2-7 and 62-2-8 of the Code of the County of Fairfax, states in § 112.1.1. that "[t]he Fairfax County Board of Building Code Appeals is the local Board of Fire Prevention Code Appeals (BFPCA) for Fairfax County[,]" and in § 112.5.1 that "[a]ppeals arising from the Fire Prevention Code of Fairfax County shall be limited to the factual basis of the application of this code."¹

The Review Board find this language sufficient to establish that the County appeals board is duly authorized to hear appeals of local fire code violation and as there is no dispute that the action, under Sections 302.1 and 3201.1, taken against ITI by the Fairfax County Fire Marshal's Office is action under a local fire code, and not under the Virginia Statewide Fire Prevention Code, the Review Board is not authorized by § 27-98 of the Code of Virginia to hear ITI's appeal on Sections 302.1 and 3201.1.

Prior to the start of testimony by either party, the Review Board addressed Section 301.2 (as amended by the Fairfax County Fire Prevention Code) concerning combustible fire storage fire permits. The Review Board finds that its basic law, in § 36-114 of the Code of Virginia, does not authorize it to hear appeals of local fire prevention regulations as only the Statewide Fire Prevention Code is referenced in its statutory authority.

¹ Language excerpted from the final order of the Poplar Place Homeowners Association appeal ; Appeal No. 14-11

Consequently, the Review Board finds that the appeal on Sections 302.1 and 3201.1 is not properly before it.

Moreover, the Review Board finds that the only issue before is whether ITI's current use of its building constitutes a change of occupancy as referenced in Section 301.3 of the SFPC:

"CHANGE OF OCCUPANCY. A change in the purpose or level of activity within a building that involves a change in application of the requirements of this code."

The FCFMO provided testimony that ITI has a non-residential use permit for a separated mixed use Business (B) and Moderate-Hazard Storage (S-1) occupancy, but that ITI exceeded the storage quantities for flammable and combustible liquids for S-1 occupancies in SFPC Table 5003.1.1. For that reason, the FCFMO asserts that ITI has effectuated a change of occupancy.

ITI provided testimony that its building is used for the retail and wholesale business of selling essential oils. ITI also testified that it used Table 5704.3.1 - which applies to Mercantile (Group M) and Storage (Group S) occupancies - to determine the maximum allowable quantities per control area of flammable and combustible liquids in wholesale and retail sales occupancies for its business. The term "Maximum Allowable Quantity per Control Area" is defined in the SFPC as:

"The maximum amount of a hazardous material allowed to be stored or used within a control area inside a building or an outdoor control area. The maximum allowable quantity per

control area is based on the material state (solid, liquid or gas) and the material storage or use conditions."

The Review Board finds that ITI misapplied Section and Table 5704.3.4.1 of the SFPC for maximum allowable quantities per control area for Mercantile (Group M) occupancies given that its current permitted use classification is Business (B) and Moderate-Hazard Storage (S-1). The appropriate table for the current use of the building is Table 5003.1.1(1).

IV. FINAL ORDER

The appeal having been given due regard, and for the reasons set out herein, the Review Board orders the Fairfax County Fire Marshal's Office issuance of the notice of violation for ITI on Section 301.3 of the SFPC, and the local appeals board's ratification of the citation, to be, and hereby are, upheld. The Review Board further orders all others aspects of ITI's appeal to be, and hereby are, dismissed as due to lack of jurisdiction.

Chairman, State Technical Review Board

Date Entered

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty (30) days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a Notice of Appeal with Vernon W. Hodge, Secretary of the Review Board. In the event that this decision is served on you by mail, three (3) days are added to that period.

VIRGINIA:

BEFORE THE
STATE BUILDING CODE TECHNICAL REVIEW BOARD

IN RE: Appeal of Starr Construction
 Appeal No. 15-6

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VIRGINIA:

BEFORE THE
STATE BUILDING CODE TECHNICAL REVIEW BOARD

IN RE: Appeal of Starr Construction, Inc.
Appeal No. 15-6

REVIEW BOARD STAFF DOCUMENT

Suggested Statement of Case History and Pertinent Facts

1. In May of 2012, Starr Construction, Inc. (Starr) entered into a contract with Frank and Evelyn Draper (Drapers) to install new windows and HardiPlank lap siding on their home located at 1173 Old Stable Road, in McLean, Virginia. The work was performed in July and August of 2012.

2. In December of 2013, at the request of the Drapers, the Fairfax County Department of Public Works and Environmental Services (County building department), the county agency responsible for the enforcement of Part I of the Virginia Uniform Statewide Building Code (the Virginia Construction Code, or VCC), conducted an inspection of the work performed under the 2009 VCC. In May of 2014, as a result of the inspection, a corrective work order under the VCC was issued to Starr for the improper installation of composite siding (Section R703.10), the improper installation of a exterior porch ceiling (Section R805.1 and R703.10.2), and for a lack of permits (VCC Section 108.1 and 113.3) for electrical and plumbing work.

3. In August of 2014, the corrective work order was reissued to Starr.

4. In September of 2014, the County building department re-inspected the property. As a result, a corrective work order, outlining violations of the 2009 VCC, was sent to Starr on November 14, 2014, and stated that it replaced the previously issued orders.

5. On November 25, 2014, the County building department issued a notice of violation under the 2009 VCC to Starr requiring correction of the violations cited in the most recent corrective work order, to be completed within 30 calendar days from receipt of the notice.

6. On December 29, 2014, Starr filed an appeal of the issuance of the notice to the County of Fairfax Board of Building Code Appeals (local appeals board) which heard the appeal in March of 2015 and ruled to uphold the issuance of the notice. Starr then further appealed to the Review Board.

7. The Review Board staff conducted an informal fact-finding conference in August of 2015, attended by Draper, representatives of Starr Construction, Inc., representatives of the County building department and its legal counsel. At the conference, the issue of responsibility for correction of Violation #1 (improper siding installation) was discussed with the parties, with Draper contending that Starr is responsible as the contractor of record and Starr arguing that the Drapers directed it to install the HardiPlank brand siding (and associated trim), in some instances, in direct contravention to the applicable manufacturer's installation instructions. On that matter, staff distributed a final order from a previous appeal concerning the issue of responsible party, as used in VCC Section 115.2 (Violations). During further discussion, Starr acknowledged its responsibility for not procuring the necessary electrical and plumbing permits required under VCC Section 108.1, as cited in Violation #3 of the notice of violation. The remainder of the informal fact-finding conference was spent discussing Violations #1 and #2 in detail with the parties to clarify the nature of the alleged violations. In the discussion, however,

it became clear that the issues identified under Violation #1 were present in multiple locations on the home's exterior, but those locations were not specified in the notice of violation. As a result, the county building department agreed to provide up-to-date color photographs with a detailed description of each violation and its specific location or locations, for inclusion in the Review Board's agenda package.

Suggested Issue for Resolution by the Review Board

1. Whether to uphold the decision of the County building department and the County appeals board that Starr Construction, LLC is responsible for the cited violations, without consideration of each cited violation; or if not,
2. Whether to remand the appeal back to the County appeals board for the County appeals board to determine whether to uphold the County building department's decision concerning each cited violation; or if not,
3. Whether to uphold the County building department's decision concerning each item cited in Violation #1 (VCC Section R703.10) as described in the November 25, 2014 notice of violation:

Violation 1 – Siding Not Installed Properly (Section R703.10)

Issue A - Whether the lack of flashing over horizontal projections is a violation of the code

Issue B – Whether the lack of minimum clearance between the siding and exterior surfaces is in violation of the code

Issue C – Whether the improperly staggered butt joints in the siding are a violation of the code

Issue D – Whether the improper break of butt joints in the siding is a violation of the code

Issue E – Whether the missing starter strip is a violation of the code

Issue F – Whether the lack of 1" edge distance of the fasteners is in violation of the code

Issue G – Whether the lack of edge coating to field cuts is in violation of the code

Issue H – Whether the installation of the gable louvers is in violation of the code

Issue I - Whether the application of caulking to the butt joints is in violation of the code

Issue J – Whether the use solvent base liquid for wiping “color plus” technology siding and trim is in violation of the code

Issue K – Whether the improper use of “ColorPlus Touch-Up” pens is in violation of the code.

Violation #2: Porch Ceiling Finish

This cited violation of VCC Sections R805.1 and R703.10.2 concerns the improper installation of the beadboard porch ceiling due to the insufficient spacing of the ceiling joists support above.

BASIC DOCUMENTS



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

CORRECTIVE WORK ORDER Virginia Uniform Statewide Building Code

DATE OF ISSUANCE: May 7, 2014

METHOD OF SERVICE: Certified Mail
#7008 3230 0003 1331 3744

LEGAL NOTICE ISSUED TO: Starr Construction, LLC
Cynthia Starr, Registered Agent

CONTRACTOR LICENSE#: 2705053948

ADDRESS: 7337 Wickford Drive
Alexandria, VA 22315

LOCATION OF VIOLATION: 1173 Old Stable Road
McLean, VA 22102

TAX MAP REF: 0292 06 0101

CASE #: 201307015 **SR#:** 99453

Per authority granted by the 2009 Virginia Uniform Statewide Building Code, an inspection was made on December 5, 2013 and revealed violations of the 2009 Virginia Residential Code (VRC) which was the applicable building code during the original construction. The violations listed below must be corrected within 10 calendar days from receipt of this order.

Violation #1 – Siding installed improperly.

James Hardie siding was not installed in accordance with the manufacturer's installation instructions in violation of Section R703.10, horizontal siding. The violations below are in reference to the James Hardie Installation Guide.

a) No Flashing installed over horizontal projections.

Flashing is missing at multiple locations of the following horizontal projections: windows, doors, dryer and exhaust fan blocks, electrical fixtures and exterior plug outlets, hose bibb outlets and trim boards in violation of Figures 4.6 and 4.11 on Page 13; 4.21, 4.22 on Page 18; 4.24 and 4.25 on Page 19; and 4.33 on Page 22.

Department of Public Works and Environmental Services
Land Development Services
12055 Government Center Parkway, Suite 444
Fairfax, VA 22035
Phone: 703-324-1780 TTY: 711, Fax: 703-324-1847
www.fairfaxcounty.gov/dnwee



b) Minimum clearance not maintained.

In multiple locations the minimum 2 inch clearance between the James Hardie product and exterior steps, driveway, decking materials and roofing was not maintained in violation of Figures 4.31 and 4.32 on Page 22 and 4.38 on Page 25.

c) Butt joints improperly staggered.

Throughout the structure, butt joints were not staggered the minimum 32 inches in violation of Figures 10.2 on Page 84 and 10.8 on Page 87.

d) Missing starter strip.

In most cases, the first course of siding lacked a proper starter strip in violation of Figures 4.36 and 4.37 on Page 24 and 10.1 on Page 84.

e) Caulk missing from over driven nails.

In multiple locations over-driven nails that were not caulked in violation of Figure 5.4 on Page 26.

f) Edge distance not maintained.

In multiple locations, the minimum 1-inch edge distances from the top of the plank to the fasteners were not maintained.

g) Edge coating missing.

Edge coating was not applied to any field cuts in violation of Figure 6.1-A on Page 27.

h) Improperly installed gable louvers.

Gable louvers were not properly installed in violation of Figure 10.12 of Page 88.

Violation # 2 –Porch Ceiling Finish.

The AZEK Beadboard on the porch ceiling was installed improperly in violation of Sections R805.1 and R703.11.1 which requires such finishes to be installed in accordance with the manufacturer's instruction. The AZEK literature limits ½ inch beadboard to framing members spaced at least 12 inches on center.

Violation # 3 – Work without a permit.

Electrical and plumbing permits were not obtained for the installation of the exterior electrical fixtures and plug outlets and the hose bibb in violation of Section 108.1.

Violation # 4 – Inspections not requested.

Inspections were not obtained for the electrical and plumbing work described in Violation #2 in violation of Section 113.3 which prescribes the minimum required inspections.

You are directed to notify James Makely, Combination Inspector, by return correspondence to 12055 Government Center Parkway, Suite 334 Fairfax, VA 22035 or telephone to 703-324-1813, TTY 711, within three working days from the date you receive this order of your election to accept or reject the terms herein. Failure to do so shall result in the immediate issuance of a Notice of Violation and the initiation of legal action to bring the above referenced property into compliance.

If you have any questions, you may contact James Makely at 703-324-1813, TTY 711.

Order Issued By: James Makely
Technical Assistant to the Building Official
Department of Public Works and Environmental Services

Signature: _____

James Makely



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

CORRECTIVE WORK ORDER **Virginia Construction Code**

DATE OF ISSUANCE: Reissued August 25, 2014

METHOD OF SERVICE: Certified Mail
#7008 0150 0001 6031 8668

LEGAL NOTICE ISSUED TO: Starr Construction, LLC
Cynthia Starr, Registered Agent

CONTRACTOR LICENSE#: 2705053948

ADDRESS: 7337 Wickford Drive
Alexandria, VA 22315

LOCATION OF VIOLATION: 1173 Old Stable Road
McLean, VA 22102

TAX MAP REF: 0292 06 0101

CASE #: 201307015 SR#: 99453

Per authority granted by the Virginia Construction Code, an inspection was made on December 5, 2013 and revealed violations of the 2009 Virginia Residential Code (VRC) which was the applicable building code during the original construction. The violations listed below must be corrected within 10 calendar days from receipt of this order.

Violation #1 – Siding installed improperly.

James Hardie siding was not installed in accordance with the manufacturer's installation instructions in violation of Section R703.10, horizontal siding. The violations below are in reference to the James Hardie Installation Guide.

a) No Flashing installed over horizontal projections.

Flashing is missing at multiple locations of the following horizontal projections: windows, doors, dryer and exhaust fan blocks, electrical fixtures and exterior plug outlets, hose bibb outlets and trim boards in violation of Figures 4.6 and 4.11 on Page 13; 4.21, 4.22 on Page 18; 4.24 and 4.25 on Page 19; and 4.33 on Page 22.

Department of Public Works and Environmental Services
Land Development Services
12055 Government Center Parkway, Suite 444
Fairfax, VA 22035
Phone: 703-324-1780 TTY: 711, Fax: 703-324-1847
www.fairfaxcountv.gov/dnws



b) Minimum clearance not maintained.

In multiple locations the minimum 2 inch clearance between the James Hardie product and exterior steps, driveway, decking materials and roofing was not maintained in violation of Figures 4.31 and 4.32 on Page 22 and 4.38 on Page 25.

c) Butt joints improperly staggered.

Butt joints shall be staggered a minimum of 32 inches of center for 16 inch on center framing. For 24 inch on center framing, butt joints need to be staggered 24 inches.

d) Butt joints.

All butt joints shall break in the middle of studs.

e) Caulking.

Caulking shall not be used on butt joints on Hardie Plank lap siding with color plus technology. Picture 10.10 on Page 87.

f) Factory ends of planks.

Install factory ends of planks at butt joints whenever possible. Picture 10.2 on Page 84.

g) Butt joints.

Butt joints shall be installed with moderate contact. Picture 10.11 on Page 88.

h) Missing starter strip.

In most cases, the first course of siding lacked a proper starter strip in violation of Figures 4.36 and 4.37 on Page 24 and 10.1 on Page 84.

i) Edge distance not maintained.

In multiple locations, the minimum 1-inch edge distances from the top of the plank to the fasteners were not maintained.

j) Edge coating missing.

Edge coating was not applied to any field cuts in violation of Figure 6.1-A on Page 27.

k) Improperly installed gable louvers.

Gable louvers were not properly installed in violation of Figure 10.12 of Page 88.

l) Solvent base liquid.

Do not use solvent base liquid (mineral spirits/lacquer) for whipping color plus technology.
Page 29.

Violation # 2 – Porch Ceiling Finish.

The AZEK Beadboard on the porch ceiling was installed improperly in violation of Sections R805.1 and R703.11.1 which requires such finishes to be installed in accordance with the manufacturer's instruction. The AZEK literature limits ½ inch bead-board to framing members spaced at least 12 inches on center.

Violation # 3 – Minimum permits.

Minimum permits not obtained. Electrical and plumbing permits not obtained for work done in violation of Section 108.1 and 113.3.

You are directed to notify James Makely, Combination Inspector, by return correspondence to 12055 Government Center Parkway, Suite 334 Fairfax, VA 22035 or telephone to 703-324-1813, TTY 711, within three working days from the date you receive this order of your election to accept or reject the terms herein. Failure to do so shall result in the immediate issuance of a Notice of Violation and the initiation of legal action to bring the above referenced property into compliance.

If you have any questions, you may contact James Makely at 703-324-1813, TTY 711.

Order Issued By: James Makely
Technical Assistant to the Building Official
Department of Public Works and Environmental Services

Signature: _____



Starr Construction, Inc.

September 2, 2014

Department of Public Works & Environmental Services
12055 Government Center Parkway, Suite 334
Fairfax, VA 22035

Re: Case # 201307015 SR # 99453.

Dear James,

Thank you for the reissued Corrective Work Order dated August 24, 2014, but I reject for all of the reasons that are stated below:

1. All siding & trim work was performed in accordance to the Contract documents. More specifically, we reviewed all aspects of the installation with the Draper's and conformed our performance under the Siding Contract dated May 11, 2012 with the Draper's requirements.

As stated in the Contract:

"J. Resolution of Design, Construction and Specification Issues: *The Company reserves the right to make such non-substantive (legally non-material) deviations in the plans and specifications as becomes necessary, in the opinion of the Company, due to site or job conditions, after consultation with the Owner.* "

Any work that deviated from the manufacturer's specification was a result of numerous lengthy conversations with both Frank and Evelina Draper. More than once, they were advised of manufacturer's specs and at Draper's specific direction, we did as they requested. They had to approve each side as to the siding placement and/or caulking, before the related progress payment was made.

On June 25, 2014, we met with you and Melissa Smars at the Drapers house at 1173 Old Stable Road, McLean, VA 22102. My witness, who worked on the house, was also there and he verified that both Frank and Evelina Draper dictated how they wanted the siding to be installed. If needed, he will be happy to provide you with a written statement.

Violation #1 Siding Installed Improperly section b – h. It was stated that it was in violation of Section R703.3.2, horizontal siding, of the 2009 Virginia Residential Code (VRC). Fiber Cement siding is not covered under this code. Under Fairfax County Code, approved manufacturers guidelines are only one (1) of the installation options. Fairfax County does not inspect siding and it was installed per the Contract and homeowner.

Violation # 2 Porch Ceiling Finish - It was stated that it was in violation of Sections R805.1 and R703.11.1 of the 2009 Virginia Residential Code (VRC). R805.1 states to install it according to requirements for interior walls and R703.11.1 is for Vinyl not PVC. Also, Azek has an **Installation Guideline**.

7337 Wickford Drive, Alexandria, VA 22315 (703)921-0685 strconst@aol.com

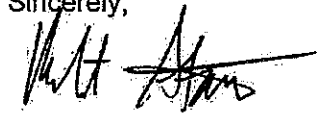
"A guideline is a statement by which to determine a course of action. A guideline aims to streamline particular processes according to a set routine or sound practice. By definition, following a guideline is never mandatory. Guidelines are not binding and are not enforced." Attached

Initially, Frank Draper's issue was the Azek ceiling. I provided him with a solution but it would have cost Frank Draper additional money – per the original Contract, it would have been covered under "Unforeseen Circumstances". Frank Draper refused the solution.

I will accept Violation # 3 – Work without a permit. This would have been corrected by now but we were told to hold off on this.

The siding was installed per Frank and Evelina Draper's requirements for its appearance. There was no negligence or incompetence with the installation. They have suffered no damages as a result of it being installed per their guideline and it has been over 2 years. We have even received additional calls for work as a result of neighbors seeing Draper's siding.

Sincerely,



Robert Starr
License #2505053948



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

CORRECTIVE WORK ORDER Virginia Construction Code

DATE OF ISSUANCE: November 14, 2014

METHOD OF SERVICE: Certified Mail
#7008 3230 0003 1331 3614

LEGAL NOTICE ISSUED TO: Starr Construction, LLC
Cynthia Starr, Registered Agent

CONTRACTOR LICENSE#: 2705053948

ADDRESS: 7337 Wickford Drive
Alexandria, VA 22315

LOCATION OF VIOLATION: 1173 Old Stable Road
McLean, VA 22102

TAX MAP REF: 0292 06 0101

CASE #: 201307015 **SR#:** 99453

Per authority granted by the Virginia Construction Code, inspections were made on December 5, 2013 and September 25, 2014 at the address referenced above. Violations of the 2009 Virginia Residential Code, the applicable building code during the original construction, were found. The violations, listed below, must be corrected within five calendar days from receipt of this order. This Corrective Work Order replaces those that have previously been issued.

Violation #1 – Siding installed improperly.

James Hardie siding was not installed in accordance with the manufacturer's installation instructions in violation of Section R703.10, *Horizontal siding*. The violations listed below are in reference to the James Hardie Installation Guide.

a) No flashing installed over horizontal projections.

Flashing is missing over the following horizontal projections: windows, doors, dryer and exhaust fan blocks, electrical fixtures and exterior plug outlets, hose bibb outlets and trim boards in violation of Figures 4.6 and 4.11 on Page 13; 4.21, 4.22 on Page 18. See attached images 7, 11, 14 and 18.

Department of Public Works and Environmental Services
Land Development Services
12055 Government Center Parkway, Suite 444
Fairfax, VA 22035
Phone: 703-324-1780 TTY: 711, Fax: 703-324-1847
www.fairfaxcounty.gov/dpwes



b) Minimum clearance not maintained.

In multiple locations, the minimum 2-inch clearance between the James Hardie product and exterior steps, driveway, decking materials and roofing was not maintained in violation of Figures 4.31 and 4.32 on Page 22 and 4.38 on Page 25. See attached images 3, 6 and 19.

c) Butt joints improperly staggered.

Butt joints are improperly staggered in violation of Figures 10.2 on Page 84 and 10.8 on Page 87 which require a minimum spacing of 32 inches for studs spaced 16 inches on center. See attached images 8, 10, 11 and 15.

d) Butt joints.

Butt joints improperly break in violation of Figure 10.11 on Page 88 which requires butt joints to break in the middle of wall studs.

e) Missing starter strip.

In most locations, the first course of siding does not have a proper starter-strip in violation of Figures 4.36 and 4.37 on Page 24 and 10.1 on Page 84. See attached images 9, 12, 14 and 17.

f) Edge distance not maintained.

In multiple locations, the minimum 1-inch edge distances from the top of the plank to the fasteners were not maintained in violation of Figure 10.5 on Page 86.

g) Edge coating missing.

Edge coating was not applied to field cuts in violation of Figure 6.1-A on Page 27.

h) Improperly installed gable louvers.

Gable louvers were not properly installed in violation of Figure 10.12 of Page 88. See attached image 8.

i) Caulking.

Caulking was applied to butt joints in violation of Figure 10.10 on Page 87.

j) Solvent base liquid

Solvent base liquid (mineral spirits/lacquer) for wiping color plus technology siding and trim boards was used in violation of the requirements shown on Page 29.

k) ColorPlus Touch-Up.

James Hardie ColorPlus Touch-Up pens were improperly used in violation of the requirements on Page 27 which instruct to have damaged siding replaced.

Violation # 2 – Porch Ceiling Finish.

The AZEK Beadboard on the porch ceiling was installed improperly in violation of Sections R805.1 and R703.10.2 which require such finishes to be installed in accordance with the manufacturer's instruction. The AZEK literature limits ½-inch beadboard to framing members spaced at least 12 inches on center.

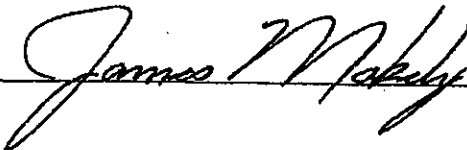
Violation # 3 – Minimum permits.

Minimum permits were not obtained. Electrical and plumbing permits were not obtained in violation of Sections 108.1 and 113.3.

You are directed to notify James Makely, Combination Inspector, by return correspondence to 12055 Government Center Parkway, Suite 334 Fairfax, VA 22035 or telephone to 703-324-1813, TTY 711, within three working days from the date you receive this order of your election to accept or reject the terms herein. Failure to do so shall result in the immediate issuance of a Notice of Violation and the initiation of legal action to bring the above referenced property into compliance.

If you have any questions, you may contact James Makely at 703-324-1813, TTY 711.

Order Issued By: James Makely
Technical Assistant to the Building Official
Department of Public Works and Environmental Services

Signature: 



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

CORRECTIVE WORK ORDER Virginia Construction Code

DATE OF ISSUANCE: November 14, 2014

METHOD OF SERVICE: Certified Mail
#7008 3230 0003 1331 3614

LEGAL NOTICE ISSUED TO: Starr Construction, LLC
Cynthia Starr, Registered Agent

CONTRACTOR LICENSE#: 2705053948

ADDRESS: 7337 Wickford Drive
Alexandria, VA 22315

LOCATION OF VIOLATION: 1173 Old Stable Road
McLean, VA 22102

TAX MAP REF: 0292 06 0101

CASE #: 201307015 **SR#:** 99453

Per authority granted by the Virginia Construction Code, inspections were made on December 5, 2013 and September 25, 2014 at the address referenced above. Violations of the 2009 Virginia Residential Code, the applicable building code during the original construction, were found. The violations, listed below, must be corrected within five calendar days from receipt of this order. This Corrective Work Order replaces those that have previously been issued.

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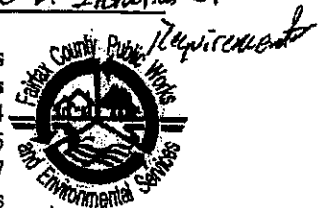
James Hardie siding was not installed in accordance with the manufacturer's installation instructions in violation of Section R703.10, *Horizontal siding*. The violations listed below are in reference to the James Hardie Installation Guide.

a) No flashing installed over horizontal projections.

Flashing is missing over the following horizontal projections: windows, doors, dryer and exhaust fan blocks, electrical fixtures and exterior plug outlets, hose bibb outlets and trim boards in violation of Figures 4.6 and 4.11 on Page 13; 4.21, 4.22 on Page 18. See attached images 7, 11, 14 and 18.

Correct not covered in the August 2011 Installation

Department of Public Works and Environmental Services
Land Development Services
12055 Government Center Parkway, Suite 444
Fairfax, VA 22035
Phone: 703-324-1780 TTY: 711, Fax: 703-324-1847
www.fairfaxcounty.gov/dpwes



b) Minimum clearance not maintained.

In multiple locations, the minimum 2-inch clearance between the James Hardie product and exterior steps, driveway, decking materials and roofing was not maintained in violation of Figures 4.31 and 4.32 on Page 22 and 4.38 on Page 25. See attached images 3, 6 and 19.

c) Butt joints improperly staggered. *By the homeowners request, siding was removed to meet his requirements*

Butt joints are improperly staggered in violation of Figures 10.2 on Page 84 and 10.8 on Page 87 which require a minimum spacing of 32 inches for studs spaced 16 inches on center. See attached images 8, 10, 11 and 15.

d) Butt joints. *Butt joints + spacing were confirmed and approved by the Homeowner. He had specific requirements*

Butt joints improperly break in violation of Figure 10.11 on Page 88 which requires butt joints to break in the middle of wall studs. *Joists end on studs where possible*

e) Missing starter strip. *Upper Gable Ends which is Truss Framing*

In most locations, the first course of siding does not have a proper starter-strip in violation of Figures 4.36 and 4.37 on Page 24 and 10.1 on Page 84. See attached images 9, 12, 14 and 17.

f) Edge distance not maintained.

In multiple locations, the minimum 1-inch edge distances from the top of the plank to the fasteners were not maintained in violation of Figure 10.5 on Page 86. *Correct (beveled) no benefit in most areas or not possible over bricked areas without causing siding to protrude excessively*

g) Edge coating missing.

Edge coating was not applied to field cuts in violation of Figure 6.1-A on Page 27.

h) Improperly installed gable louvers.

Gable louvers were not properly installed in violation of Figure 10.12 of Page 88. See attached image 8. *They are installed correctly*

i) Caulking.

Caulking was applied to butt joints in violation of Figure 10.10 on Page 87.

j) Solvent base liquid

Homeowner requested seams to be caulked
Contract addresses this issue

Please show that all requirements by hard-plate refer to their 2012 Installation Requirements

Solvent base liquid (mineral spirits/lacquer) for wiping color plus technology siding and trim boards was used in violation of the requirements shown on Page 29. *Solvent was used when Homeowner asked for Siding Seams to be caulked*

k) ColorPlus Touch-Up.

James Hardie ColorPlus Touch-Up pens were improperly used in violation of the requirements on Page 27 which instruct to have damaged siding replaced. *2 years ago*
Was not Damaged Homeowner Inspect and made Final Payment

Violation # 2 – Porch Ceiling Finish.

f The AZEK Beadboard on the porch ceiling was installed improperly in violation of Sections R805.1 and R703.10.2 which require such finishes to be installed in accordance with the manufacturer's instruction. *Does not Apply*
M The AZEK literature limits 1/2-inch beadboard to framing members spaced at least 12 inches on center.

Violation # 3 – Minimum permits.

Minimum permits were not obtained. Electrical and plumbing permits were not obtained in violation of Sections 108.1 and 113.3. *Correct*

You are directed to notify James Makely, Combination Inspector, by return correspondence to 12055 Government Center Parkway, Suite 334 Fairfax, VA 22035 or telephone to 703-324-1813, TTY 711, within three working days from the date you receive this order of your election to accept or reject the terms herein. Failure to do so shall result in the immediate issuance of a Notice of Violation and the initiation of legal action to bring the above referenced property into compliance.

If you have any questions, you may contact James Makely at 703-324-1813, TTY 711.

Order Issued By: James Makely
Technical Assistant to the Building Official
Department of Public Works and Environmental Services

Signature: James Makely

We will Fix Flashing issues

pull Permits for Plumbing & Electrical When Homeowner agrees to pay for the permit which is in the contract
Install Starter Strip

From: stroonst <stroonst@aol.com>

To: james.makely <james.makely@fairfaxcounty.gov>

Cc: Stroonst <Stroonst@aol.com>

Subject: Frank Draper Case # 201307015

Date: Thu, Nov 20, 2014 4:21 pm

Attachments: Hardie_Plank_Installation_Guide_November_2011.pdf (5031K), Draper_Corrective_Work_Order_Response.pdf (3243K)

Dear James,

Attached you will find my response to your Corrective Work Order letter dated November 14, 2014 as well as the correct Hardie Plank Installation Guide.

Thank you,

Robert Starr

Starr Construction, Inc.

November 19, 2014

Department of Public Works & Environmental Services
12055 Government Center Parkway, Suite 334
Fairfax, VA 22035

Attn: James Makely

Re: Case # 201307015 SR # 99453.

Dear James,

Thank you for your updated Corrective Work Order letter dated November 14, 2014 but once again, I am rejecting it for all of the reasons that are stated below. Please review the enclosed Hardie Plank Installation Requirements that were in effect when Draper's siding was installed. It was updated in November 2012, after the completion of the Drapers siding installation.

Violation #1

1a. ***Siding installed improperly*** - Not covered in the *2011 Installation Requirements*, so all requirements have been met.

1b. ***Minimum clearance not maintained*** - The morning we started this we had a few pieces applied to the gable end above the garage area. I asked Frank Draper's if aesthetically this was ok or would he rather not have the required gap that Hardie Plank wants. I was advised by Frank Draper that he did not want the gap and that the siding looked better without it. This detail is consistent throughout the project where the 2" gap is required. Most customers like the clean look of the siding meeting the roof line and if given a choice, have always chosen not to do the 2" gap. Starr Construction's Contract states that homeowners have this right to choose to deviate from recommended guidelines or manufacturer's installation guidelines. In 14 years of installing Hardie Plank siding, I have never had an issue with damage from this decision, which makes me comfortable offering this choice to my customer. At our meeting, with Frank Draper, on June 25, 2014, I had a witness that confirmed that Frank Draper had made this decision.

1c. ***Butt joints improperly staggered*** - Not covered in the *2011 Installation Requirements*, so all requirements have been met.

1d. ***Butt Joints*** - Not covered in the *2011 installation Requirements* so all requirements have been met.

1e. ***Missing starter strip*** - The installation of a starter strip over brick is not possible without causing the starter strip to crack. If applied to the sill plate, above the brick area, it

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would have caused the siding to protrude excessively. In this situation, the starter strip would not have been either esthetically pleasing or have functioned properly.

1f. **Edge distance not maintained** - The 2011 *installation Requirements* state that the edge distance should be 3/4" to 1". This was done.

1g. **Edge coating missing** - Field cuts were caulked against trimmed areas. Factory edges were butted at center joints. 2011 *installation Requirements* state that cut edge treatment is to be either caulked, painted or primed. This was done.

1h. **Improperly installed gable louvers** - It is installed correctly. It's a plastic 2 piece vent. You attach the lower part to the house before siding, apply the siding and caulk to the flanged piece then apply the vented cover to the flange. I tried to explain this at our meeting on June 25, 2014, but I was not heard because Frank Draper would not give anyone else the chance to talk.

1i. **Caulking** - In Starr Constructions Contract it stated that caulking the seams was against manufacture install and would void any warranty with us regarding butt end seams. After a two (2) hour meeting, with both Frank & Evelina Draper, and many attempts to provide an adequate look it was finally decided to caulk the front and garage side of the house which was visible from the street. No other seams are caulked on the house. At our meeting on June 25, 2014, both our witness and Frank Draper confirmed this request. Has Fairfax County decided to ignore the homeowner admitting this in front of three (3) County employees? His exact comment was that he told me to caulk the garage side but not the front. Frank Drapers stated that we added the caulking of butt end seems to the Contract after the fact. We have the original email where he was sent the Contract as a pdf.

1j **Solvent base liquid** - Not covered in the 2011 *installation Requirements* and was only used on the requested caulked seams to achieve the final look approved by both Frank and Evelina Draper as explained in 1i.

1k. **ColorPlus Touch-up** - Over two years ago there was no damage. Homeowner inspected and confirmed a complete and satisfactory job and a final payment was made. Custom shutters were ordered and installed by an outside company after our completion of the job. No complaint on damaged siding was made within his one year warranty with us.

Violation #2

R703.10.2 Lap siding

Fiber-cement lap siding having a maximum width of 12 inches shall comply with the requirements of ASTM C 1186, Type A, minimum Grade II. Lap siding shall be lapped a minimum of 1 1/4 inches (32 mm) and lap siding not having tongue-and-groove end joints shall have the ends sealed with caulking, installed with an H-section joint cover, located over a strip of flashing or shall be designed to comply with Section R703.1. Lap siding courses may be

7337 Wickford Drive, Alexanria, VA 22315 (703)921-0685

installed with the fastener heads exposed or concealed, according to Table R703.4 or approved manufacturers' installation instructions.

This code does not apply to application of a PVC tongue and grooved exterior wainscoting

R805.1 Ceiling installation

Ceilings shall be installed in accordance with the requirement of interior wall finishes as provided in section R702

Nowhere in R702 is there a section on application of a PVC tongue and grooved exterior wainscoting. The drywall over which the PVC was applied over does meet the requirements.

Violation #3

Starr Construction did not pull a permit on the free installation of a water spigot. The homeowner did not want to incur any additional charges.

Starr Construction did not pull permit for lighting on an existing circuit with an existing light

Starr Construction's Contract states that the homeowner will pay for all fees associated with permitting. At our meeting on June 25, 2014 Frank Draper stated in front of all three (3) Fairfax County employees that he would not pay for permitting.

In conclusion:

This whole issue has been very disheartening for myself and my family. It seems that Fairfax County has taken a stand that the homeowner is always right, no matter what the issue. I'm sure you deal with many, very unfortunate incidents daily, where the contractor is wrong and the homeowner never receives what was contracted. That is not the case with Frank & Evelina Draper, Starr Construction went above and beyond to meet all of the requests during the siding installation.

This has been ongoing for over 2 years after completion of the work, the final payment was received on August 25, 2012 and the customers were satisfied. Starr Construction no longer installs exterior siding or Hardie products. Our meeting at the Drapers was less than productive. Frank Draper has not suffered any damages due to his alleged siding issues. He has admitted to the wanting the caulking at the butt end seams, on the front and side of the house. This alone will void Hardie Planks warranty.

I had mentioned on 2 occasions that you were referring to a revised installation guide that did not pertain to this install. Please review the attached James Hardie Installation Guide. I am still getting sided for items that do not pertain to the correct installation guide. Fairfax County is still citing violations of codes that do pertain to this install.

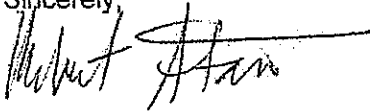
Our meeting on June 25, 2014 with Frank Draper, he pointed out ceiling damage looked like someone had pulled it down to justify his joist spacing. You (James Makely) have original pictures, from your first visit to Draper's, that show there was no damage to the PVC ceiling. Any damage that was there on June 25, 2014 (PVC pulled from ceiling) did not occur within Draper's his one year warranty.

Frank Draper has had, by his own admission, several people looking at his siding and you have in your possession, a picture with a person pulling on the siding at the back of the house. Thi

I have never had a complaint or a dissatisfied customer. Quality work is very important to me and I bend over backwards to give my clients what they want, no matter what the project. Final payment is made from satisfied customers. Frank Draper made his final payment.

Please review the attached, correct Hardie Plank Installation Guide. After a lot of research, I found that Hardie Plank revises their guides every year so they can avoid covering warranty issues. Previous guides are hard to get. This is one reason we will no longer deal with them or their products.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert Starr", with a long horizontal flourish extending to the right.

Robert Starr
2705053948



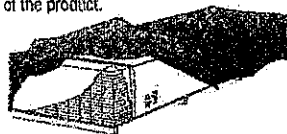
INSTALLATION REQUIREMENTS - PRIMED & COLORPLUS® PRODUCTS

SELECT CEDARMILL® • SMOOTH • COLONIAL SMOOTH® • COLONIAL ROUGHSAWN® • BEADED CEDARMILL® BEADED SMOOTH • STRAIGHT-EDGE SHINGLE PLANK

IMPORTANT: FAILURE TO INSTALL AND FINISH THIS PRODUCT IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND JAMES HARDIE WRITTEN APPLICATION INSTRUCTIONS MAY LEAD TO PERSONAL INJURY, AFFECT SYSTEM PERFORMANCE, VIOLATE LOCAL BUILDING CODES, AND VOID THE PRODUCT ONLY WARRANTY. BEFORE INSTALLATION, CONFIRM THAT YOU ARE USING THE CORRECT HARDIEZONE™ PRODUCTS INSTRUCTIONS. TO DETERMINE WHICH HARDIEZONE™ APPLIES TO YOUR LOCATION, VISIT WWW.HARDIEZONE.COM OR CALL 1-866-942-7343 (866 9HARDIE)

STORAGE & HANDLING:

Store flat and keep dry and covered prior to installation. Installing siding wet or saturated may result in shrinkage at butt joints. Carry planks on edge. Protect edges and corners from breakage. James Hardie is not responsible for damage caused by improper storage and handling of the product.



CUTTING INSTRUCTIONS

OUTDOORS

1. Position cutting station so that wind will blow dust away from user and others in working area.
2. Use one of the following methods:
 - a. Best:
 1. Score and snap
 2. Shears (manual, electric or pneumatic)
 - b. Better:
 1. Dust reducing circular saw equipped with a HardieBlade® saw blade and HEPA vacuum extraction
 2. Dust reducing circular saw with a HardieBlade saw blade (only use for low to moderate cutting)
 - c. Good:

INDOORS

1. Cut only using score and snap, or shears (manual, electric or pneumatic).
 2. Position cutting station in well-ventilated area
- NEVER use a power saw indoors
NEVER use a circular saw blade that does not carry the HardieBlade saw blade trademark
NEVER dry sweep - Use wet suppression or HEPA Vacuum

Important Note: For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best"-level cutting methods where feasible.

NIOSH-approved respirators can be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at www.jameshardie.com to help you determine the most appropriate cutting method for your job requirements. If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

SDX/11/15

IMPORTANT: To prevent damage to the drip edge, extra care should be taken when removing planks from the pallet, while handling, and when installing with a lap gauge. Please see additional handling requirements on page 4.

GENERAL REQUIREMENTS:

- HardiePlank® lap siding can be installed over braced wood or steel studs spaced a maximum of 24" o.c. or directly to minimum 7/16" thick OSB sheathing. Irregularities in framing and sheathing can mirror through the finished application.
- HardiePlank lap siding can also be installed over foam insulation/sheathing up to 1" thick. When using foam insulation/sheathing, avoid over-driving nails (fasteners), which can result in dimpling of the siding due to the compressible nature of the foam insulation/sheathing. Extra caution is necessary if power-driven nails (fasteners) are used for attaching siding over foam insulation/sheathing.
- A water-resistive barrier is required in accordance with local building code requirements. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements. James Hardie will assume no responsibility for water infiltration. James Hardie does manufacture HardieWrap® Weather Barrier, a non-woven non-perforated housewrap®, which complies with building code requirements.
- When installing James Hardie products all clearance details in figs. 3, 4, 5, 6, 7, 8, & 9 must be followed.
- Adjacent finished grade must slope away from the building in accordance with local building codes - typically a minimum of 6" in the first 10'.
- Do not use HardiePlank lap siding in Fascia or Trim applications.
- Do not install James Hardie products, such that they may remain in contact with standing water.
- HardiePlank lap siding may be installed on flat vertical wall applications only.
- DO NOT use stain on James Hardie® products.
- For larger projects, including commercial and multi-family projects, where the span of the wall is significant in length, the designer and/or architect should take into consideration the coefficient of thermal expansion and moisture movement of the product in their design. These values can be found in the Technical Bulletin "Expansion Characteristics of James Hardie® Siding Products" at www.JamesHardie.com.

INSTALLATION:

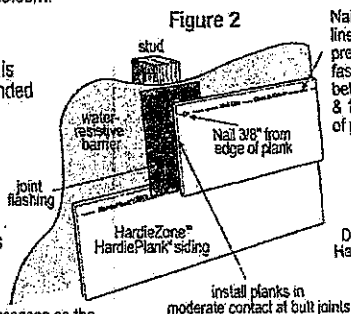
JOINT TREATMENT

- Joint flashing behind field butt joints is required for ColorPlus and recommended for primed products.
- DO NOT Caulk field butt joints on ColorPlus siding.*
- It is OK to Caulk field butt joints on James Hardie primed siding products that is to be field painted.**
- DO caulk where HardiePlank® meets vertical trim.

*Note: Caulking at field butt joints is not recommended for ColorPlus for aesthetic reasons as the caulking and ColorPlus will weather differently.

Note: Field painting over caulking may produce a sheen difference when compared to the field painted PrimePlus. *Refer to Caulking section in these instructions.

†For additional information on HardieWrap® Weather Barrier, consult James Hardie at 1-866-4Hardie or www.hardiewrap.com



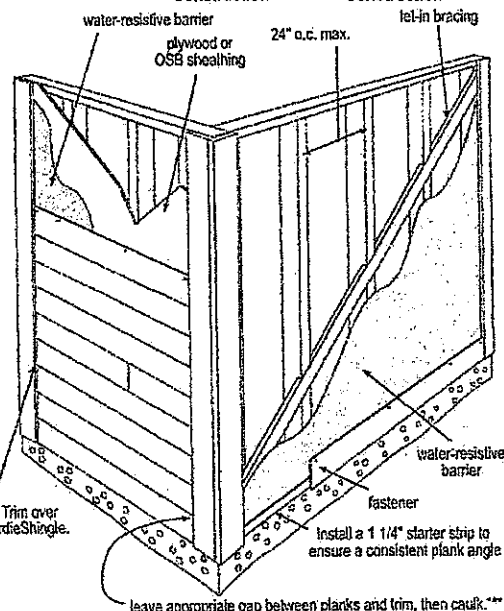
Nail line (if nail line is not present place fastener between 3/4" & 1" from top of plank)

DO NOT install Trim over HardiePlank® (HardieShingle).

Figure 1

Double Wall Construction

Single Wall Construction



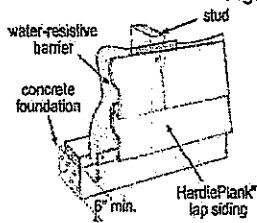
WARNING: AVOID BREATHING SILICA DUST

James Hardie® products contain respirable crystalline silica, which is known to the State of California to cause cancer and is considered by IARC and NIOSH to be a cause of cancer from some occupational sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) use fiber cement shears for cutting or, where not feasible, use a HardieBlade saw blade and dust-reducing circular saw attached to a HEPA vacuum; (3) warn others in the immediate area; (4) wear a properly-fitted, NIOSH-approved dust mask or respirator (e.g. N-95) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods - never dry sweep. For further information, refer to our installation instructions and Material Safety Data Sheet available at www.jameshardie.com or by calling 1-800-9HARDIE (1-800-942-7343). FAILURE TO ADHERE TO OUR WARNINGS, MSDS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

CLEARANCES

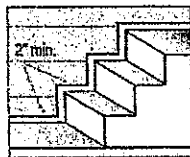
Install siding and trim products in compliance with local building code requirements for clearance between the bottom edge of the siding and the adjacent finished grade.

Figure 3



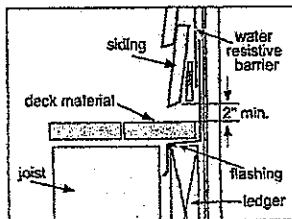
Maintain a 2" minimum clearance between James Hardie® products and paths, steps and driveways.

Figure 4



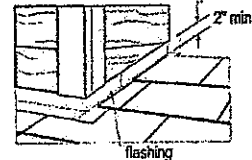
Maintain a 2" minimum clearance between James Hardie products and decking material.

Figure 5



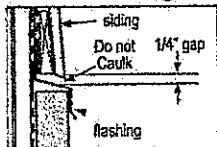
At the juncture of the roof and vertical surfaces, flashing and counterflashing shall be installed per the roofing manufacturer's instructions. Provide a 2" minimum clearance between the roofing and the bottom edge of the siding and trim.

Figure 6



Maintain a 1/4" clearance between the bottom of James Hardie products and horizontal flashing. Do not caulk gap.

Figure 7



Maintain a minimum 1" gap between gutter end caps and siding & trim.

Figure 8

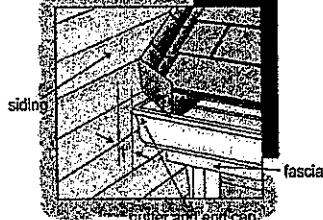
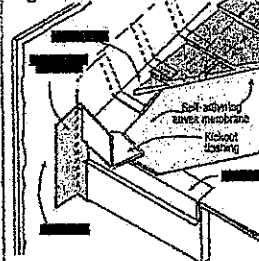


Figure 9



KICKOUT FLASHING

Because of the volume of water that can pour down a sloped roof, one of the most critical flashing details occurs where a roof intersects a sidewall. The roof must be flashed with step flashing. Where the roof terminates, install a kickout to deflect water away from the siding.

It is best to install a self-adhering membrane on the wall before the subfascia and trim boards are nailed in place, and then come back to install the kickout.

Figure 15, Kickout Flashing To prevent water from dumping behind the siding and the end of the roof intersection, install a "kickout" as required by IRC code R905.2.8.3: "...flashing shall be a min. of 4" high and 4" wide." James Hardie recommends the kickout be angled between 100° - 110° to maximize water deflection

FASTENER REQUIREMENTS **

Blind Nailing is the preferred method of installation for HardiePlank® lap siding products. For Fastening schedule refer to ESSR-2290 at www.jameshardie.com. Pin-backed corners may be done for aesthetic purposes only. Pin-backs shall be done w/finish nails only, and are not a substitute for blind or face nailing.

BLIND NAILING

Nails - Wood Framing

- Siding nail (0.09" shank x 0.221" HD x 2" long)
- 11 ga. roofing nail (0.121" shank x 0.371" HD x 1.25" long)

Screws - Steel Framing

- Ribbed Wafer-head or equivalent (No. 8 x 1 1/4" long x 0.375" HD) Screws must penetrate 3 threads into metal framing.

Nails - Steel Framing

- ET & F Panelfast® nails or equivalent (0.10" shank x 0.313" HD x 1-1/2" long) Nails must penetrate minimum 1/4" into metal framing.

OSB minimum 7/16"

- 11 ga. roofing nail (0.121" shank x 0.371" HD x 1.75" long)
- Ribbed Wafer-head or equivalent (No. 8 x 1 5/8" long x 0.375" HD).

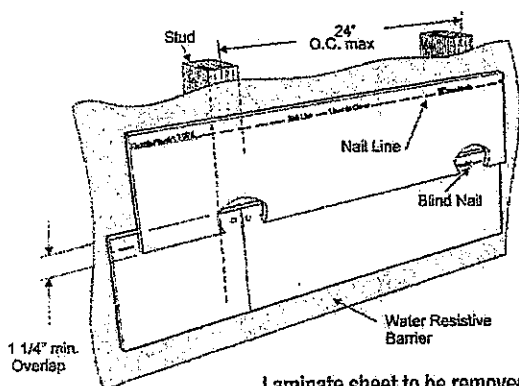
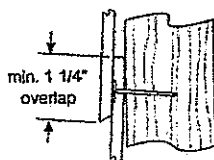


Figure 10

Minimum overlap for Both Face and Blind Nailing



FACE NAILING

Nails - Wood Framing

- 6d (0.113" shank x 0.267" HD x 2" long)
- Siding nail (0.09" shank x 0.221" HD x 2" long)

Screws - Steel Framing

- Ribbed Bugle-head or equivalent (No. 8-16 x 1-5/8" long x 0.323" HD) Screws must penetrate 3 threads into metal framing.

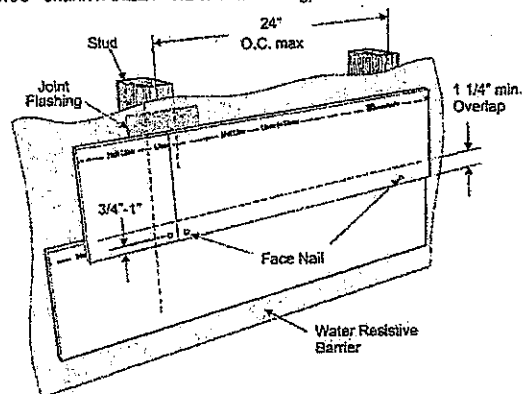
Nails - Steel Framing

- ET & F pin or equivalent (0.10" shank x 0.25" HD x 1-1/2" long) Nails must penetrate minimum 1/4" into metal framing.

OSB minimum 7/16"

- Siding nail (0.09" shank x 0.221" HD x 1-1/2" long)*

Figure 11



Laminate sheet to be removed immediately after installation of each course for ColorPlus® products.

*The illustration (figure 9) and associated text was reprinted with permission of THE JOURNAL OF LIGHT CONSTRUCTION. For subscription information, visit www.jlconline.com.

* When face nailing to OSB, planks must be no greater than 9 1/4" wide and fasteners must be 12" o.c. or less.

** Also see General Fastening Requirements; and when considering alternative fastening options refer to James Hardie's Technical Bulletin USTB 17 - Fastening Tips for HardiePlank® Lap Siding.

HS11117-P2/A 8/11

GENERAL FASTENING REQUIREMENTS

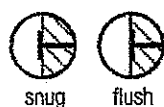
Fasteners must be corrosion resistant, galvanized, or stainless steel. Electro-galvanized are acceptable but may exhibit premature corrosion. James Hardie recommends the use of quality, hot-dipped galvanized nails. James Hardie is not responsible for the corrosion resistance of fasteners. Stainless steel fasteners are recommended when installing James Hardie® products near the ocean, large bodies of water, or in very humid climates.

Manufacturers of ACQ and CA preservative-treated wood recommend spacer materials or other physical barriers to prevent direct contact of ACQ or CA preservative-treated wood and aluminum products. Fasteners used to attach HardieTrim Tabs to preservative-treated wood shall be of hot dipped zinc-coated galvanized steel or stainless steel and in accordance to 2009 IRC R317.3 or 2009 IBC 2304.9.5.

- Consult applicable code compliance report for correct fasteners type and placement to achieve specified design wind loads.
- NOTE: Published wind loads may not be applicable to all areas where Local Building Codes have specific jurisdiction. Consult James Hardie Technical Services if you are unsure of applicable compliance documentation.
- Drive fasteners perpendicular to siding and framing.
- Fastener heads should fit snug against siding (no air space). (fig. A)
- Do not over-drive nail heads or drive nails at an angle.
- If nail is countersunk, fill nail hole and add a nail. (fig. B)
- For wood framing, under driven nails should be hit flush to the plank with a hammer (For steel framing, remove and replace nail).
- Do not use aluminum fasteners, staples, or clipped head nails.

PNEUMATIC FASTENING

James Hardie products can be hand nailed or fastened with a pneumatic tool. Pneumatic fastening is highly recommended. Set air pressure so that the fastener is driven snug with the surface of the siding. A flush mount attachment on the pneumatic tool is recommended. This will help control the depth the nail is driven. If setting the nail depth proves difficult, choose a setting that under drives the nail. (Drive under driven nails snug with a smooth faced hammer - Does not apply for installation to steel framing).



snug flush
Figure A



countersunk,
fill & add nail
Figure B



DO NOT under drive nails DO NOT staple

PAINTING

DO NOT use stain on James Hardie® products. James Hardie products must be painted within 180 days for primed product and 90 days for unprimed. 100% acrylic topcoats are recommended. Do not paint when wet. For application rates refer to paint manufacturers specifications. Back-rolling is recommended if the siding is sprayed.

CUT EDGE TREATMENT

Caulk, paint or prime all field cut edges.

CAULKING

For best results use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. Note: OSI Quad as well as some other caulking manufacturers do not allow tooling.

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

- Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch-up applicator. Touch-up paint should be used sparingly. If large areas require touch-up, replace the damaged area with new HardiePlank® lap siding with ColorPlus® Technology.
- Laminate sheet must be removed immediately after installation of each course.
- Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus® product dealer.
- Treat all other non-factory cut edges using the ColorPlus Technology edge coat, available from your ColorPlus product dealer.

PAINTING JAMES HARDIE® SIDING AND TRIM PRODUCTS WITH COLORPLUS® TECHNOLOGY

When repainting ColorPlus products, James Hardie recommends the following regarding surface preparation and topcoat application:

- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew
- Repriming is normally not necessary
- 100% acrylic topcoats are recommended
- DO NOT use stain or oil/alkyd base paints on James Hardie® products
- Apply finish coat in accordance with paint manufacturers written instructions regarding coverage, application methods, and application temperature

COVERAGE CHART/ESTIMATING GUIDE

Number of 12' planks, does not include waste

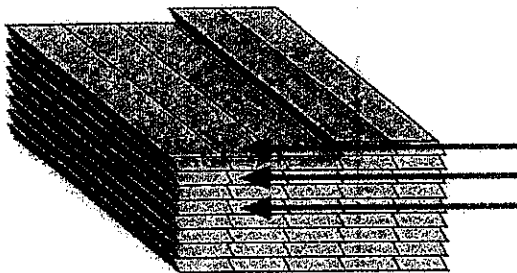
COVERAGE AREA LESS OPENINGS		HARDIEPLANK® LAP SIDING WIDTH									
SQ (1 SQ = 100 sq.ft.)	(exposure)	5 1/4 4	6 1/4 5	7 1/4 6	7 1/2 6 1/4	8 6 3/4	8 1/4 7	9 1/4 8	9 1/2 8 1/4	12 10 3/4	
1		25	20	17	16	15	14	13	13	9	
2		50	40	33	32	30	29	25	25	19	
3		75	60	50	48	44	43	38	38	28	
4		100	80	67	64	59	57	50	50	37	
5		125	100	83	80	74	71	63	63	47	
6		150	120	100	96	89	86	75	75	58	
7		175	140	117	112	104	100	88	88	65	
8		200	160	133	128	119	114	100	100	74	
9		225	180	150	144	133	129	113	113	84	
10		250	200	167	160	148	143	125	125	93	
11		275	220	183	176	163	157	138	138	102	
12		300	240	200	192	178	171	150	150	112	
13		325	260	217	208	193	185	163	163	121	
14		350	280	233	224	207	200	175	175	130	
15		375	300	250	240	222	214	188	188	140	
16		400	320	267	256	237	229	200	200	149	
17		425	340	283	272	252	243	213	213	158	
18		450	360	300	288	267	257	225	225	167	
19		475	380	317	304	281	271	238	238	177	
20		500	400	333	320	296	286	250	250	186	

This coverage chart is meant as a guide. Actual usage is subject to variables such as building design. James Hardie does not assume responsibility for over or under ordering of product.

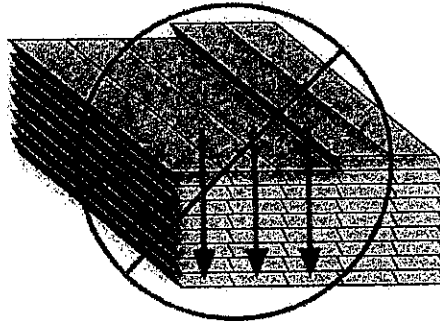
ADDITIONAL HANDLING REQUIREMENTS

IMPORTANT: To prevent damage to the drip edge, extra care should be taken when removing planks from the pallet, while handling, and when installing with a lap gauge. Planks are interlocked together on the pallet, therefore they should be removed from the pallet horizontally (side to side) to allow planks to unlock themselves from one another.

Pull from across the stack



Do not go down the stack



RECOGNITION: In accordance with ICC-ES Legacy Report NER-405, HardiePlank® lap siding is recognized as a suitable alternative to that specified in: the BOCA National Building Code/1999, the 1997 Standard Building Code, the 1997 Uniform Building Code, the 1998 International One- and Two-Family Dwelling Code, the 2003 International Building Code, and the 2003 International Residential Code for One- and Two-Family Dwellings. HardiePlank lap siding is also recognized for application in the following: City of Los Angeles Research Report No. 24862, State of Florida listing FL#869, Dade County, Florida NOA No. 02-0729.02, U.S. Dept. of HUD Materials Release 1263c, Texas Department of Insurance Product Evaluation EC-23, City of New York MEA 223-93-M, and California DSA PA-019. These documents should also be consulted for additional information concerning the suitability of this product for specific applications.

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TM, SM, and ® denote trademarks or registered trademarks of
James Hardie Technology Limited. ® is a registered trademark
of James Hardie Technology Limited.

Panelfast is a registered trademark of ET&F Fastening Systems, Inc.

Additional Installation Information,
Warranties, and Warnings are available at
www.jameshardie.com



JamesHardie



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

NOTICE OF VIOLATION Virginia Construction Code

DATE OF ISSUANCE: November 25, 2014

METHOD OF SERVICE: Certified Mail
#7006 0810 0002 2577 4078

LEGAL NOTICE ISSUED TO: Starr Construction, LLC
Cynthia Starr, Registered Agent

CONTRACTOR LICENSE#: 2705053948

ADDRESS: 7337 Wickford Drive
Alexandria, VA 22315

LOCATION OF VIOLATION: 1173 Old Stable Road
McLean, VA 22102

TAX MAP REF: 0292 06 0101

CASE #: 201307015 **SR#:** 99453

Per authority granted by the Virginia Construction Code, inspections were made on December 5, 2013 and September 25, 2014 at the address referenced above. Violations of the 2009 Virginia Residential Code, the applicable building code during the original construction, were found. The violations, listed below, must be corrected within thirty calendar days from receipt of this order.

Violation #1 – Siding installed improperly.

James Hardie siding was not installed in accordance with the manufacturer's installation instructions in violation of Section R703.10, *Horizontal siding*. The violations listed below are in reference to the James Hardie Installation Guide.

a) No flashing installed over horizontal projections.

Flashing is missing over the following horizontal projections: windows, doors, dryer and exhaust fan blocks, electrical fixtures and exterior plug outlets, hose bibb outlets and trim boards in violation of Figures 4.6 and 4.11 on Page 13; 4.21, 4.22 on Page 18. See attached images 7, 11, 14 and 18.

Department of Public Works and Environmental Services
Land Development Services
12055 Government Center Parkway, Suite 444
Fairfax, VA 22035
Phone: 703-324-1780 TTY: 711, Fax: 703-324-1847
www.fairfaxcounty.gov/landdev



b) Minimum clearance not maintained.

In multiple locations, the minimum 2-inch clearance between the James Hardie product and exterior steps, driveway, decking materials and roofing was not maintained in violation of Figures 4.31 and 4.32 on Page 22 and 4.38 on Page 25. See attached images 3, 6 and 19.

c) Butt joints improperly staggered.

Butt joints are improperly staggered in violation of Figures 10.2 on Page 84 and 10.8 on Page 87 which require a minimum spacing of 32 inches for studs spaced 16 inches on center. See attached images 8, 10, 11 and 15.

d) Butt joints.

Butt joints improperly break in violation of Figure 10.11 on Page 88 which requires butt joints to break in the middle of wall studs.

e) Missing starter strip.

In most locations, the first course of siding does not have a proper starter-strip in violation of Figures 4.36 and 4.37 on Page 24 and 10.1 on Page 84. See attached images 9, 12, 14 and 17.

f) Edge distance not maintained.

In multiple locations, the minimum 1-inch edge distances from the top of the plank to the fasteners were not maintained in violation of Figure 10.5 on Page 86.

g) Edge coating missing.

Edge coating was not applied to field cuts in violation of Figure 6.1-A on Page 27.

h) Improperly installed gable louvers.

Gable louvers were not properly installed in violation of Figure 10.12 of Page 88. See attached image 8.

i) Caulking.

Caulking was applied to butt joints in violation of Figure 10.10 on Page 87.

j) Solvent base liquid

Solvent base liquid (mineral spirits/lacquer) for wiping color plus technology siding and trim boards was used in violation of the requirements shown on Page 29.

k) ColorPlus Touch-Up.

James Hardie ColorPlus Touch-Up pens were improperly used in violation of the requirements on Page 27 which instruct to have damaged siding replaced.

Violation # 2 -- Porch Ceiling Finish.

The AZEK Beadboard on the porch ceiling was installed improperly in violation of Sections R805.1 and R703.10.2 which require such finishes to be installed in accordance with the manufacturer's instruction. The AZEK literature limits ½-inch beadboard to framing members spaced at least 12 inches on center.

Violation # 3 -- Minimum permits.

Minimum permits were not obtained. Electrical and plumbing permits were not obtained in violation of Sections 108.1 and 113.3.

You have the right to appeal this decision within 30 days to the Fairfax County Board of Building and Fire Prevention Code Appeals. Appeal application forms may be obtained by contacting:

Fairfax County Board of Building and Fire Prevention Code Appeals
Attention: Secretary to Board
12055 Government Center Parkway
Fairfax, Va. 22035-5504
Telephone: 703-324-1780

Failure to submit an application for appeal within the time limit established shall constitute acceptance of the code official's decision. Failure to correct these defects within the time limits specified shall result in legal action being taken under the applicable State and County Codes.

If you have any questions, you may contact James Makely at 703-324-1813, TTY 711.

Order Issued By: James Makely
Technical Assistant to the Building Official
Department of Public Works and Environmental Services

Signature: _____





Building Code Appeal Request

PROJECT INFORMATION

Project Name: Frank & Evelina Draper

Project Address: 1173 Old Stable Road, McLean, VA 22102

Permit or case number: 201307015

Tax map number: 0292060101

APPLICANT INFORMATION

Applicant Name: Starr Construction Inc

☐ Owner ☐ Owner's agent

Address: 7337 Wickford Drive

City: Alexandria

State: VA

ZIP: 22315

Phone: (703)921-0685

Email: strconst@aol.com

OWNER INFORMATION

[] See applicant information

Owner Name: _____

Address: _____

City: _____

State: _____

ZIP: _____

Phone: _____

Email: _____

APPEAL INFORMATION

Appealing decision made on the date of by ☒ Building Official ☐ Fire Official ☐ Property Maintenance Official
rendered on the following date: -

Code(s) (IBC, IMC, IPMC, etc.) and year-edition: Virginia Residential Building Code - 2009 edition

Action(s): -

REQUEST/SOLUTION

Describe the code or design deficiency and practical difficulty in complying with the code provision:

Attached you will find all of the documentation for Case #201307015 SR#99453 that was submitted to Melissa Smarr and James Makely, Technical Assistant to the Building Official, Department of Public Works Environmental Services.

All of the information that was submitted defends my position that I did not violate Fairfax County Codes for Hardie Plank Siding or PVC bead board porch ceiling installation.

Robert Starr

Please return the completed form and any supporting documentation to the address or email below.

Chairman, Fairfax County Board of Building Code Appeals -
12055 Government Center Parkway, Suite 444 -
Fairfax, VA 22035-5504 -
Attention: Secretary to the Board -
buildingofficial@fairfaxcounty.gov

Smarr, Melissa

From: Guerra-Moran, Carla C.
Sent: Friday, May 08, 2015 2:02 PM
To: Smarr, Melissa
Subject: FW: 1173 Old Stable Road - March 11

Thank you,
Carla

From: Guerra-Moran, Carla C.
Sent: Wednesday, December 31, 2014 2:06 PM
To: 'strconst@aol.com'
Cc: Foley, Brian
Subject: 1173 Old Stable Road - March 11

Dear Mr. Starr,

I received your appeal regarding a notice of violation issued to you by James Makely.

This appeal will be heard on March 11, 2015 and you will receive a package with more information by mid-February.

Best Regards,
Carla

Carla Guerra-Moran

Secretary to the Board of Building Code Appeals
Carla.Guerra-Moran@fairfaxcounty.gov
703-324-1780 Main
703-653-6678 Fax

From: Foley, Brian
Sent: Monday, December 29, 2014 9:59 AM
To: Guerra-Moran, Carla C.
Subject: FW: Attention Secretary to the Board - Building Code Appeal Request

From: strconst@aol.com [<mailto:strconst@aol.com>]
Sent: Wednesday, December 24, 2014 12:27 PM
To: buildingofficial
Subject: Attention Secretary to the Board - Building Code Appeal Request

Email 1 of 2
Secretary to the Board:

Attached you will find the Building Code Appeal Request Form as well as back up documentation. If you have any questions, I can be reached by email or at (703)921-0685. Please confirm the receipt of this request.

Thank you,
Robert Starr

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Starr Construction, Inc.
7337 Wickford Dr.
Alexandria, VA 22315

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *Cynthia Starr* ☐ Agent ☒ Addressee

B. Received by (Printed Name)

CYNTHIA STARR

C. Date of Delivery

4/16/2015

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3. Service Type

- ☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

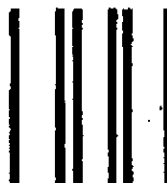
☐ Yes

2. Article Number

(Transfer from service label)

7005 3110 0003 4933 4973

NOVA
UNITED STATES POSTAL SERVICE
26 APR '15
FMI 2 1



First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

Fairfax County Board of Building Code Appeals
Carla Guerra-Moran, Secretary to the Board
12055 Government Center Parkway, Suite 444
Fairfax, VA 22035-5504

035550019



Guerra-Moran, Carla C.

From: Guerra-Moran, Carla C.
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To: 'strconst@aol.com'
Cc: Foley, Brian
Subject: 1173 Old Stable Road - March 11

Dear Mr. Starr, .

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This appeal will be heard on March 11, 2015 and you will receive a package with more information by mid-February.

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703-324-1780 Main
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Email 1 of 2
Secretary to the Board:

Attached you will find the Building Code Appeal Request Form as well as back up documentation. If you have any questions, I can be reached by email or at (703)921-0685. Please confirm the receipt of this request.

Thank you,
Robert Starr

RESOLUTION

WHEREAS, the Fairfax County Board of Building Code Appeals (the Board) is duly appointed to resolve disputes arising out of the enforcement of the VRC, 2009 edition.

and

WHEREAS, an appeal has been timely filed and brought to the attention of the Board, and
WHEREAS, a hearing has been duly held to consider the aforementioned appeal, and
WHEREAS, the Board has fully deliberated this matter; now, therefore, be it

RESOLVED, That the matter of

Appeal No. 141229.0AP

In RE: Robert Star

Star Construction, LLC

1173 Old Stable Road

McLean, VA 22102

v. Fairfax County Department of Public
Works and Environmental Services

The appeal is hereby denied by a vote of 4-0 with one abstention.

Testimony and pictures provided by Fairfax County Officials confirmed the violations noted in the Notice of Violation dated November 25, 2014.

FURTHER, be it known that:

1. This decision is solely for this case and its surrounding circumstances.
2. This decision does not serve as a precedent for any future cases or situations, regardless of how similar they may appear.

Date:

3/16/2015

Signature:

J. Christopher Fox

J. Christopher Fox

Chairman, Board of Building Code Appeals

Note: Upon receipt of this resolution, any person who was a party to the appeal may appeal to the State Building Code Technical Review Board within twenty-one (21) days of receipt of this resolution. Application forms are available from the Virginia Department of Housing and Community Development, 600 East Main Street, Suite 300, Richmond, VA 23219 or by calling 804-371-7150.

I Carla Guerra-Moran hereby certify that this is
CUSTODIAN
a true copy of a Fairfax County Department of
Public Works & Environmental Services record of which
I am a custodian.

Carla Guerra-Moran
CUSTODIAN

I Audrey Clark hereby certify that this is
SUPERVISOR OF CUSTODIAN
a true copy of a Fairfax County Department of
Public Works & Environmental Services record of
which Carla Guerra-Moran is the custodian and that
CUSTODIAN
Carla Guerra-Moran reports to me.

Brian J. [Signature]
SUPERVISOR OF CUSTODIAN

UNITED STATES POSTAL SERVICE

MAR 25 '15

PM 5 L



First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

Fairfax County Board of Building Code Appeals
Carla Guerra-Moran, Secretary to the Board
12055 Government Center Parkway, Suite 444
Fairfax, VA 22035-5504



SENDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Robert Starr
337 Wickford Drive

Alexandria, VA 22315

It is a shame we get the decision
I never got notice of the hearing

Article Number

(Transfer from service label)

7005 3110 0003 4933 4997

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *Cindy Starr*

☐ Agent

☐ Addressee

B. Received by (Printed Name)

Cindy Starr

C. Date of Delivery

3/25/05

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3/19

resolution

3. Service Type

☒ Certified Mail

☐ Express Mail

☐ Registered

☐ Return Receipt for Merchandise

☐ Insured Mail

☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

[English](#)[Customer Service](#)[USPS Mobile](#)[Register / Sign In](#)

Search or Enter a Tracking Number

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USPS Tracking™

[Customer Service](#)
Have questions? We're here to help.[Get Easy Tracking Updates](#)
Sign up for My USPS.com.

Tracking Number: 70053110000349334973

Updated Delivery Day: Friday, March 6, 2015

Product & Tracking Information

Postal Product:**Features:**

Certified Mail™

DATE & TIME	STATUS OF ITEM	LOCATION
April 16, 2015, 12:40 pm	Delivered	ALEXANDRIA, VA 22315

Your item was delivered at 12:40 pm on April 16, 2015 in ALEXANDRIA, VA 22315.

March 6, 2015, 8:25 am	Out for Delivery	ALEXANDRIA, VA 22315
March 6, 2015, 8:15 am	Sorting Complete	ALEXANDRIA, VA 22315
March 6, 2015, 6:58 am	Arrived at Unit	ALEXANDRIA, VA 22315
March 5, 2015, 3:49 pm	Departed USPS Facility	MERRIFIELD, VA 22081
March 4, 2015, 8:34 pm	Arrived at USPS Facility	MERRIFIELD, VA 22081

Available Actions

[Return Receipt After Mailing](#)

Track Another Package

Tracking (or receipt) number

[Track It](#)

Manage Incoming Packages

Track all your packages from a dashboard.
No tracking numbers necessary.[Sign up for My USPS.com](#)**HELPFUL LINKS**[Contact Us](#)[Site Index](#)[FAQs](#)**ON ABOUT.USPS.COM**[About USPS Home](#)[Newsroom](#)

PAGE 1

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USPS Tracking™



Tracking Number: 70053110000349334973

Updated Delivery Day: Friday, March 6, 2015

Product & Tracking Information

Available

Postal Product:

Extra Svc:

Certified Mail™

Text Updates

Email Updates

DATE & TIME

STATUS OF ITEM

LOCATION

March 6, 2015, 10:25 pm

Delivery status not updated

The delivery status for this item has not been updated as of March 6, 2015, 10:25 pm.

March 6, 2015, 8:25 am

Out for Delivery

ALEXANDRIA, VA 22315

March 6, 2015, 8:15 am

Sorting Complete

ALEXANDRIA, VA 22315

March 6, 2015, 6:56 am

Arrived at Unit

ALEXANDRIA, VA 22315

March 5, 2015, 3:49 pm

Departed USPS Facility

MERRIFIELD, VA 22081

March 4, 2015, 8:34 pm

Arrived at USPS Facility

MERRIFIELD, VA 22081

Track Another Package

Tracking (or receipt) number



Not delivered
as of 4/14/2015

English

Customer Service

USPS Mobile

PAGE 2
Register / Sign in

USPS Tracking™

Customer Service >
Have questions? We're here to help.

Tracking Number: 70053110000349334973

Updated Delivery Day: Friday, March 6, 2015

Product & Tracking Information

Available Actions

Postal Product:

Extra Svc:
Certified Mail™

Return Receipt After Mailing

DATE & TIME

STATUS OF ITEM

LOCATION

April 16, 2015, 12:40 pm

Delivered

ALEXANDRIA, VA 22315

Your item was delivered at 12:40 pm on April 16, 2015 in ALEXANDRIA, VA 22315.

March 6, 2015, 8:25 am

Out for Delivery

ALEXANDRIA, VA 22315

March 6, 2015, 8:15 am

Sorting Complete

ALEXANDRIA, VA 22315

March 6, 2015, 6:56 am

Arrived at Unit

ALEXANDRIA, VA 22315

March 5, 2015, 3:49 pm

Departed USPS Facility

MERRIFIELD, VA 22081

March 4, 2015, 8:34 pm

Arrived at USPS Facility

MERRIFIELD, VA 22081

Finally
received
package
from FFX
county.

Track Another Package

Tracking (or receipt) number

Search or Enter a Tracking Number



COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
State Building Codes Office and Office of the State Technical Review Board
Main Street Centre, 600 E. Main Street, Suite 300, Richmond, Virginia 23219
Tel: (804) 371-7150, Fax: (804) 371-7092, Email: alan.mcmahan@dhcd.virginia.gov

APPLICATION FOR ADMINISTRATIVE APPEAL

Regulation Serving as Basis of Appeal (check one):

- ☒ Uniform Statewide Building Code
☐ Statewide Fire Prevention Code
☐ Industrialized Building Safety Regulations
☐ Amusement Device Regulations

Appealing Party Information (name, address, telephone number and email address):

ROBERT STARR 7337 WICKFORD DR. (703) 921-0685
STARR CONSTRUCTION, INC. ALEXANDRIA VA 22315 strconst@aol.com

Opposing Party Information (name, address, telephone number and email address of all other parties):

FAIRFAX COUNTY DEPT. OF PUBLIC WORKS

Additional Information (to be submitted with this application)

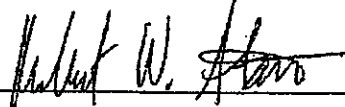
- ☐ Copy of enforcement decision being appealed
- ☐ Copy of record and decision of local government appeals board (if applicable and available)
- ☐ Statement of specific relief sought

CERTIFICATE OF SERVICE

I hereby certify that on the 9th day of APRIL, 2015, a completed copy of this application, including the additional information required above, was either mailed, hand delivered, emailed or sent by facsimile to the Office of the State Technical Review Board and to all opposing parties listed.

Note: This application must be received by the Office of the State Technical Review Board within five (5) working days of the date on the above certificate of service for that date to be considered as the filing date of the appeal. If not received within five (5) working days, the date this application is actually received by the Office of the Review Board will be considered to be the filing date.

Signature of Applicant: _____



Name of Applicant: _____

ROBERT W. STARR

(please print or type)

Starr Construction, Inc.

April 9, 2015,

Commonwealth of Virginia
Department of Housing and Community Development
600 East Main Street, Suite 300
Richmond, VA 23219

Case # 201307015 Frank & Evelina Draper

Dear Mr. McMahan,

I am writing to appeal the decision of the Fairfax County Board of Building Code Appeals. I was very surprised when I received the Resolution via Certified Mail on March 24, 2015 because I never received any information, as promised, regarding my actual appeal hearing. On December 31, 2014, I received an email from Carla Guerra-Moran on saying the appeal would be heard March 11, 2014, and I would be receiving a package with more information by mid-February. As of today, I still have not received a package from Fairfax County regarding my appeal hearing. I have however received four (4) Certified Letters from Fairfax County regarding this Case and I responded to every one of them, on time. I can not understand how the most important package of information, regarding my appeal, was never received.

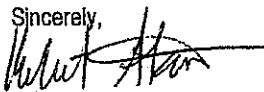
I am attaching the following along with my appeal:

- All of the correspondence between myself and the DPOR, including the Summary of the Informal Fact-Finding Conference on February 3, 2015
- All of the correspondence between myself and Fairfax County Public works and Environmental Services. Fairfax reissued identical Corrective Work Orders until November 14, 2014 when three (3) additional items were added
- Additional supporting Documentation
- The August 11, 2011 Hardie Plank Installation Guideline that is delivered with the material to be installed and was in effect at the time the Draper's siding was installed. It was not updated until November 2012.
- I have also attached the AZEK Guidelines that were in effect in August 2012. AZEK provides a Guideline and by definition, following a "guideline" never mandatory.

I take a lot of pride in my work and this is the only complaint that I have ever received. All of the work was completed per Frank & Evelina Draper's specification. This work was completed almost three (3) years ago and the final payment was received August 25, 2012 and the Draper's were happy with the work that was completed. This whole issue with Fairfax County has been very disheartening, especially since I never received the packet to attend the appeal hearing.

If you need any additional information, please let me know, I happy to provide it to you.

Sincerely,



Robert Starr
(703)921-0685

COMBINED DOCUMENTS

STARR CONSTRUCTION

Frank & Evelina Draper
1173 Old Stable Road
McLean, VA 22102

CONTRACT

This contract is entered into this 11th day of May between Starr Construction (the Company) and Frank and Evelina Draper (herein known as the "Owners") for the specified remodeling work to be performed on the residence located at 1173 Old Stable Road, McLean, VA 22102.

A. Contract Documents

The Contract Documents consist of this Contract together with the following and all addenda thereto:

- | | | |
|----|-----------------------|------------|
| 1. | Specifications | Appendix A |
| 2. | Warranty | Appendix B |
| 3. | Compensation Schedule | Appendix C |

These documents form the Contract and are as fully a part of the Contract as if incorporated herein.

B. Description of Work

The price set forth below includes ONLY the work described below, and any work discussed but not listed herein is NOT a part of this Contract.

1. **General Description:** The Company shall perform the following work per plans:
Install new specified Anderson Windows and hang new Hardie Plank siding
2. **Specifications:** The windows and siding will be installed per Vendor guidelines and to the applicable building codes.
3. **General Conditions:**
 - a. **Permitting:** This Contract subject to the issuance of any and all permits from the

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County of Fairfax necessary for the performance of the construction work specified in the Contract Documents. The Owners shall bear any and all increased costs resulting from any code changes or other changes in regulatory requirements imposed by the governmental authorities that become effective and are applied to the Project at any time after the date of Contract. The Owners will be responsible for and will be billed separately for the cost of the building permit(s).

b. **Utility Charges:** All electric, power, gas, water, or other utility company charges are to be paid for directly by the Owners. Any and all charges levied by the local WSSC and/or local Government agencies for additional sewer or fixture use shall be borne by the owners.

c. **Job Condition:** Construction debris shall be removed from site, and job left **"broom clean."** All materials delivered onsite, but not used in construction are and shall remain the property of the Company and shall be removed from the job site. Unless otherwise agreed in writing by the parties any and all materials scheduled for removal and or replacement shall be treated as construction debris and removed from the site by the Company.

d. **Material Movement:** The Company shall **not** be held responsible for damage to driveway, walks, lawns, shrub or vegetation by movement of men or materials, unless caused by negligence of the Company. It shall be the Owners' responsibility to remove any and all personal objects from the areas under construction prior to the commencement of construction. The Company shall not be held liable for accidental damage to or breakage of personal effects of the Owners, unless caused by the negligence of the Company. In the event of any such damage caused by the negligence of the Company, the Owners shall report said damage in writing within One week of the occurrence. The Company may, in its discretion, assist Owners in moving furniture, etc., under the direction of the Owners, but shall incur no liability for damage during such moving operations.

e. **Pre-Existing Conditions:**

(1) **General Provisions:** This Proposal/Contract assumes that there are no pre-existing code violations or hidden and materially adverse conditions present in the existing areas affected by the Project. The cost of addressing any such condition is not included in this Proposal/Contract, but may be negotiated separately, by Change Order.

(2) **Rotten Wood:** This Contract does not include the replacement and/or repair of any rotten wood if found in the existing areas to be painted and/or re-roofed. If the Company finds any such rotten wood, the Company shall inform the Owners and any corrective work may be negotiated separately, by Change Order.

THE CORRECTIONS OF ANY AND ALL OF THE ABOVE PRE-EXISTING CONDITIONS IS NOT INCLUDED IN THE PRICE OF THIS CONTRACT.

f. **Matching Existing Materials and Detail:** Any attempts by the Company to match

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order to minimize inconvenience to the Owners and will take approximately five (5) weeks. The Company shall undertake to keep a Starr Construction crew appropriate to the stage of construction employed on the job forty (40) hours per week as possible. The Company shall bear no responsibility for delays due to unavailability of materials, unanticipated public utility requirements outside the control of the Contractor, unanticipated labor walkouts, weather conditions, governmental orders, Change Orders, acts of God or any other causes beyond the control of the Company. Change Orders may delay the estimated completion time. The company will work with Owner to minimize dislocation during construction.

E Warranty: All workmanship is under warranty for one full year from the date of substantial completion, as defined in Warranty Policy Paragraph 2. The Company provides no warranty for windows siding, lighting fixtures and other materials of any kind for which a manufacturers' warranty is provided; the terms of the manufacturer's warranty will be provided by the Owner and installed by the Company, the warranty extends on only to defects in the installation resulting from the negligence of the Company.

This warranty is null and void in the event that the Owners unreasonably withhold payments due under this Contract.

Starr Construction shall bear no liability in the event that the Owners employ any other contractor to perform work covered by warranty.

F Change Order Policy:

1. Client Initiated Change Order

Any work requested that is not covered in this Contract must be requested through Bob or Cindy and will be handled by a Contract Change Order signed by both parties. Only one signature from each respective party shall be necessary to execute a Change Order and the balance will be due upon ratification.

2. Delays:

Client initiated Change Orders may add cost, disrupt the flow of work and delay the completion date of the job.

G. Governing Law; Entire Contract: This Contract shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia. This Contract and the Contract Documents attached hereto constitute the entire understanding of the parties, no other understanding, collateral or otherwise, shall be binding on the heirs, executors, administrators and successors and assigns of the Owners. The Owners shall reimburse any cost incurred in the collection of payments under this Contract that are unreasonably withheld by the Owners, to the Company.

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H **Professional Identification:** Starr Construction, Inc. currently holds a Commonwealth of Virginia, Class A Contractors License, # 2705 053948A

I **Insurance:** The Company maintains a \$1 million insurance policy through Virginia Mutual Insurance Company in addition to all required general liability and auto insurance.

J **Resolution of Design, Construction and Specification Issues:** The Company reserves the right to make such non-substantive (legally non-material) deviations in the plans and specifications as becomes necessary, in the opinion of the Company, due to site or job conditions, after consultation with the Owner. In the event that the Company is unable to obtain the exact materials specified on the plans and/or specifications through the Company's ordinary and usual sources of supply within a time frame consistent with the construction schedule, or in the event of supplier or subcontractor bankruptcy and/or default of bid quote, the Company shall have the right to substitute materials or similar design, pattern and quality after consultation with the Owner.

K **Requirements Placed Upon the Owners:** The Company shall place one of the Company locks on existing door for access to the premises during construction and replace the lock with the Owners' lock at the end of construction. The Owners shall provide the Company a telephone for local telephone calls of a business nature. The Owners shall permit and provide space for the Company to display a Company sign. The Owners shall provide restroom facilities to the Company or allow the placing of a portable facility on the job site; if the Owners choose to have portable restroom facilities placed on the job sit, the cost of those facilities shall be billed separately to the Owners and are not included in the price of this Contract. The Owners shall allow the Company to place a garbage dumpster and storage trailer on the job site. The Owners shall permit the Company to take photographs and video for a visual record of the residence and the Project.

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Note: THE OWNER SHALL NOT SIGN THIS CONTRACT IN BLANK. THE OWNER SHALL BE GIVEN A COPY OF THIS CONTRACT, UPON RATIFICATION.

Date

Frank Draper

Date

Evelina Draper

5/11/2012

Date

Robert W. Starr

Robert W. Starr

WLS

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**Starr Construction
Appendix "A"**

Specifications

General:

- A. Definitions:
1. SC – Starr Construction, Inc.
 2. BOCA – Building Officials and Code Administration
 3. CABO – Council of American Building Officials
 4. MEACAPFCSS – Match existing as close as practical from Company's standard stock.
 5. OAESBC – Or as equal substitution by Company
 6. NIC – Not in Proposal/Contract
 7. OPCI – Owner provided Company installed.
- B. Dimensions: Frame walls indicate rough framing (face of stud to face of stud) unless otherwise noted. Written dimensions on these drawings take precedence over scaled dimension
- C. Codes: SC shall be responsible for ensuring all work is in accordance with all applicable state, local, and national codes and ordinances.
- D. Existing Structural Integrity: These drawings neither approve nor imply the structural integrity of the existing conditions, such being solely the responsibility of the Owner(s).
- E. Installation Methods: New fixtures, fittings, finishes, miscellaneous products, appliances, electrical, and mechanical equipment shall be installed as per the manufacturer's instructions and specifications.
- F. Cleaning: All debris and demolished materials are to be removed from the site at frequent intervals and/or placed in a site dumpster provided by the Company. Location of dumpster shall be approved by Owner(s). Area of construction shall be broom swept daily.
- G. Material Storage: All materials shall be delivered, stored, and handled to prevent inclusion of foreign materials or damages by breakage. Whenever possible, materials shall be kept in original packages until ready to use.
- H. Owner Provided Items: The Company assumes no liability for damage to any items provided by the Owner(s), including, but not limited to scratches, chipping, etc., that may occur during storage, delivery, installation or otherwise during the course of the construction process, unless caused by the negligence of the Company, including any such items provided by the Owners(s) and installed by the Company.

- I. Alternates: Items indicated as alternate are for pricing purposes only and not part of the base Contract.

Rough Carpentry

- Comply with NFPA Manual for house Construction, latest edition.
- Spruce-pine-fir # 2 structural unless other wise noted.

Millwork:

- Interior mouldings:
 - Door casing – MEACAPFCSS
- Drywall finish shall be deemed acceptable when a blemish is deemed non-objectionable by a reasonable third party when viewed, under normal daylight conditions, from a distance of 8 feet.

Paint:

- Owner is responsible for wall paper, priming & painting

Electric:

- Outlets per code
- Provide Switches – Per plans

OPCI – Owner provided Contractor installed

Siding & Trim:

- Remove all old siding and trim from exterior of house
- Repair plywood as needed - \$65.00 per sheet
- All areas that will have new siding and trim will be wrapped with Tyvek.
- All Tyvek seams will be taped with recommended Tyvek tape
- All fascia will be replaced with 1 x 6 PVC
- All fascia will be screwed to existing house framing with 2 ½" galvanized screws
- A PVC bedmoulding detail will be installed under all soffits
- All soffits will be Hardie soffit in arctic white Hardie siding with PVC crown detail.
- Trim will be 5/4 x 4 Hardie trim in arctic white at all corners, soffits and along brick sill, doorways and windows.
- All rakes will be 5/4 x 6 Hardie trim with PVC rake detail.
- A 5/4 x 4 Hardie trim freeze board will also be installed under all soffits and rakes
- All Hardie siding seams will be flashed, but not caulked per Hardie Siding installment requirements
- All siding and trim will be caulked with OSI caulking, color to match siding and trim.
- Install Hardie Plank, standard stock, 8 ¼" siding

We would like to have the siding replaced with Hardie Plank _____yes _____ no

Windows:

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- Install 12 proposed windows, see attached, in the back bedroom, front end bedroom, front bathroom, middle bedroom, front foyer, front family room, front living room, back dining room, back family room, laundry room and garage. Window allowance - \$ 6,438.02
- Install new interior trim to match existing windows as close as possible.

Total Price: \$ 8,938.02

Homeowner will be billed for any charges that are greater than the above and a credit will be issued for any amount below allowances

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3

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**Starr Construction
Appendix "B"**

Warranty Policy

Starr Construction HEREBY PROVIDES the following warranty for work performed on the residence of Frank and Evelina Draper, 1173 Old Stable Road, McLean, VA 22102, pursuant to the kitchen remodeling Contract dated May 11, 2012.

1. Warranty Terms

All workmanship is under warranty for one full year from the date of final payment for the completion of the remodeling project. **All items are installed per Vendor Specifications and Starr Construction will not Warranty workmanship if homeowner requests, in writing, for Starr Construction to deviate from specifications.** The Company provides no warranty for any OPCI items, siding, window, lighting fixtures and other materials of any kind for which a manufacturer's warranty is provided; the terms of the manufacturer's warranty will be provided to the Owner, and the Company shall have no additional liability.

2. Performance of Warranty Work by Company

It is in the nature of construction that minor shrinkage, drying, and settlement of lumber and other construction material is normal and inevitable, and may result in minor cracking, nail pops, and other cosmetic inconveniences that appear after the completion of the Project.

Any defect, which is covered by this warranty, shall be corrected along with other ordinary warranty work, according to the Company's warranty schedule, after the job is completed and final payment, made. Note: Final payment under the Contract shall not be withheld for items, which were, sound at the time of installation but may require warranty work.

The Company shall service the warranty according to the following schedule: between 30 and 60 days after the date of final payment, or at the time of final stabilization (in order to avoid repeated trips for materials which have not yet stabilized) the Company and the Owner shall agree on a warranty punch list of items requiring correction under the terms of the warranty. The Company shall schedule the warranty work in such a way as to concentrate as much of the list as possible and avoid repeat trips to the site.

After the completion of the work items on the initial warranty punch list, any other warranty work shall be addressed on an as needed basis.

The Owner shall inform the Company promptly of any work required to prevent water

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infiltration or other warranty work of an emergency nature. Such work will be given priority scheduling.

Warranty work shall be performed at the sole expense of Starr Construction. Starr Construction shall bear no liability in the event that the Owners employ any other contractor to perform work covered by this warranty.

3. **Manufacturer's Warranty**

Upon receipt of the final project payment, the Company will provide the Owner with any information that may be in its possession relating to manufacturer's warranties. Any work covered by such a manufacturer's warranty that may be required shall be dealt with directly between the Owner and the manufacturer, except that, the Company, as a courtesy, may coordinate requests for manufacturer's service.

5/11/2012
Date

Robert W. Starr
Robert W. Starr

WSS

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**Starr Construction, Inc.
Appendix "C"**

Compensation Schedule

This appendix C entered into as a part of the Remodeling Contract (the "Contract") dated this same date between Starr Construction (the "Company") and Frank and Evelina Draper (the "Owners") for the specified remodeling work to be performed on the residence located at 1173 Old Stable Road, McLean, VA 22102. This Appendix C forms a part of the Contract and is fully a part of the Contract as if incorporated herein.

In compensation for the above-described work, the Owners agree to pay to the Company the total sum of forty four thousand nine hundred thirty eight and 02/100 (~~\$44,938.02~~) according to the following payment schedule:

Initial Project Payment: An initial Project Payment is ~~(\$21,500.00)~~ If any payments are withheld for more than three (3) business days from invoice date, it could result in a work delay

- Six thousand five hundred and 00/100 (~~\$6,500.00~~) Windows
- Fifteen thousand and 00/100 (~~\$15,000.00~~) Hardy plank siding

Progress Payments

Windows/Siding

- a. A payment of five thousand four hundred eighty four dollars and 51/100 (~~\$5,484.51~~) shall be due and payable upon substantial completion of one (1) side with hardy plank siding and window install.
- b. A payment of five thousand four hundred eighty four dollars and 51/100 (~~\$5,484.51~~) shall be due and payable upon substantial completion of one (1) side with hardy plank siding and window install.
- c. A payment of five thousand four hundred eighty four dollars and 51/100 (~~\$5,484.51~~) shall be due and payable upon substantial completion of one (1) side with hardy plank siding and window install.
- d. A payment of five thousand four hundred eighty four dollars and 51/100 (~~\$5,484.51~~) shall be due and payable upon substantial completion of one (1) side with hardy plank siding and window install.

A payment of one thousand five hundred dollars and 00/100 (~~\$1,500.00~~) shall be due and payable upon substantial completion of the Project.

3. The balance of the total sums less the hold back amount shall be due and payable at the punch list walk through.

Note: Substantial completion of the Company's work shall be the date when construction is

sufficiently complete in accordance with this Contract so that the Project is ready for the use for which it is intended.

4. **Punch List Draw:** At the time the Final Item Payment is due, the Owners and the Company shall complete a Punch List of Work to be completed on a form provided by the Company. The Owners shall be entitled to hold back an amount equal to two (2) times the cost to the Company of completing and/or correcting each item on the Punch List, the sum of these shall be referred to as the "Holdback Amount". On the date the Punch List is signed by the Owners and the Company, the Owners shall pay the Company the balance due less the Holdback Amount. On any items where Starr Construction, Inc. passes on the direct cost to homeowner, there will be no Holdback Amount for any items not installed when the Final Payment is due.

The Owners shall pay the Company the Holdback Amount due for each item on the Punch List upon the completion of each such item on the Punch List.

Note: Any defect which is covered by warranty and which appears after the final Punch List has been prepared but before the final payment under the Contract shall be corrected along with ordinary warranty work. Final payment under the Contract shall not be withheld for items which were sound at the time of installation but may require warranty work.

Note: In the event that onsite conditions necessitate the performance of work out of the above draw schedule, the Company may make reasonable substitutions from subsequent draws in order that the full amount of the draw shall be paid by the Owners; such substitutions shall be subject to the approval of the Owners, which approval shall not be unreasonably withheld.

STARR CONSTRUCTION

CHANGE ORDER

Date: August 4, 2012
Job: Draper
Change Order No: 01

This Change Order No. one (1) is entered into as a part of the Remodeling Contract (the "Contract") dated May 11, 2012 between Starr Construction (the "Company") and Frank and Evelina Draper, (the "Owners") for the specified remodeling work to be performed on the residence located at 1173 Old Stable Road, Great Falls, VA 22102. This Change Order forms a part of the Contract and is as fully a part of the Contract as if incorporated herein.

Description:

Porch Ceiling PVC:

- Install PVC Bead wainscoting on front porch ceiling

Price \$ 4,500.00

Lighting

- Install 6" recessed lights on one (1) switch on front porch.
- Install one (1) owner provided ceiling fan on one (1) toggle switch
- Additional toggle switches - \$35 per switch. Dimmer switch will result in an additional charge

Price: \$ 150.00 per light or fan

We would like to have 4 recessed lights installed ✓ yes no

We would like to have 1 ceiling fan installed ✓ yes no

Compensation Schedule:

The total, four thousand five hundred dollars and 00/100 (\$4,500.00), plus total for any additional lights/fan shall be due and payable in full upon ratification of this Change Order.

Construction Schedule:

This Change Order will delay the completion date of the job by one (1) week

8/4/12
Date

[Signature]
Frank or Evelina Draper

8/4/2012
Date

[Signature]
Robert Starr

61-3-3. (a)

7337 Wickford Drive Alexandria, VA 22315 (703)921-0685 strconst@aol.com

Change order issued - change in the cost, materials or work to be performed.

All work was completed as specified.

8/25/2012

Master Bathroom/Bedroom

- 1) Move lighting in closet and add 2 additional lights. Patch so it is ready to paint.
- 2) Fixed tiles on floor where watering will not drain properly. Also, need to discuss bench in shower.
- 3) Fix framing around mirror.
- 4) Heating fan causes the lights to dim. Need to run off separate line.

~~Fix Not Reps in living dining room.~~

Siding/Windows

- 1) Mud around window trim and sand.
- 2) Finish caulking trim on outside.
- 3) Trim out hall bath window if we do not do the bath remodel.
- 4) Finalize order for shutters and install shutters.
- 5) Finish speaker hookup.

GO 3
21 \$300
PA 8/25/12

Other Projects

- 1) Install sink basin and replace p-trap in laundry room.
- 2) Replace main water shut-off valve.

Punch list items from Frank Draper
8/25/2012. Final payment for
Windows & Siding paid - less \$300. hold
back amount for bath window trim.

Starr Construction

Invoice/Receipt

August 25, 2012

Frank & Evelina Draper
1173 Old Stable Road
McLean, VA 22102

Starr Construction has received from Frank & Evelina Draper, the following payments, according to the compensation schedule for the windows Hardie Plank siding.

May 30, 2012	\$ 15,000.00 -- Initial Project Payment
July 16, 2012	\$ 5,484.51 -- One (1) side progress payment
	<u>\$ 1,939.00 -- Invoice 263</u>
	Total \$ 7,423.51
	<u>Paid \$ 7,000.00</u>
Balance Forward	\$ 423.51
July 25, 2012	\$ 423.51 -- Balance Forward
	\$ 1,334.00 -- Invoice 265
	<u>\$ 5,484.51 -- One (1) side progress payment</u>
Total	\$ 7,242.02
Paid	<u>\$ 5,000.00</u>
Credit	\$ 2,242.02
August 4, 2012	\$ 367.50 -- Credit
	\$ 5,484.51 -- One (1) side progress payment
	<u>\$ 517.00 -- Invoice 266</u>
Total	\$ 5,743.53
August 5, 2012	\$ 4,500.00 -- PVC wainscoting
	\$ 600.00 -- Four recessed lights one (1) switch
	\$ 150.00 -- OPC Ceiling fan one (1) switch
	<u>\$ 100.00 -- Two (2) dimmer s</u>
Total	\$ 5,350.00
August 6, 2012	\$11,050.00 -- Payments

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August 13, 2012

	\$ 43.53 - Balance Forward
	\$ 5,484.51 - One (1) side progress payment
	\$ 300.00 - two additional recessed lights switched with existing
Total	\$ 5,828.04
Paid	\$ 5,500.00

Balance Forward \$ 328.04

August 25, 2012

	\$ 328.04 - Balance Forward
	\$ 117.60 - Wide sill trip
	\$ 1,500.00 - Final payment - Windows & Siding
	\$ 328.04 - Hall bath window trim hold back amount
Total	\$ 1,645.64

Final payment.

Thank you,

Robert Starr

Frank,

As you know, we have had a considerable back and forth between you and Starr Construction on the topic of follow up work. We believe that all siding & trim work was performed in accordance to the Contract documents. More specifically, we reviewed all aspects of the installation with you and conformed our performance under the Siding Contract dated May 11, 2012 with your (and Evelina's) requirements.

Any work that deviated from the manufacturer's specification was a result of numerous lengthy conversations with both you and Evelina. More than once, we advised you of manufacturer's specs and then, while you both watched and at your specific direction, we did as you requested, including adding caulking and repeatedly changing the caulk bead until appearance was approved by Evelina. As you know, she did not want to see any gaps or seams in the siding or trim.

As you also know, you approved each side before the next side was started and to the siding placement and/or caulking, before the related progress payment was made.

All the work was completed per the Contract and approved by both you and Evelina, and Starr Construction has fully discharged its obligations to you.

Please note that we have reviewed this matter with our attorneys at Holland & Knight, who have concurred in the finding that we have completed the work as you required.

Lastly, please understand that Starr went above and beyond our contract requirements in attempting to satisfy your requests even after you approved the work and paid the final payments. We very much hope you will become satisfied with the outcome.

Sincerely,

STARR CONSTRUCTION

X Robert Starr X
Robert Starr

Frank,

As stated before, any work that deviated from the manufacturer's specifications was a result of numerous conversations with both you and Evelina. More than once, we advised you of manufacturer's specs but Evelina did not want to see any seams or gaps so at your specific direction, we did as you requested.

We reviewed all aspects of the installation with you and conformed our performance with your requirements. You approved each side before the next side was started and before the related progress payment was made. All work was completed per the Contract.

I was willing to work with you on your issues with the PVC bead board ceiling. On April 8, 2013 you were emailed the specific schedule, methods and material that I was willing to do, to address your issues with the PVC bead board ceiling. April 9, you responded that you would "reach out to Azek regarding Bob's proposed installation", but have yet to follow up so a Clarification Order could be prepared.

We are not available this weekend.

Sincerely,

4/12/13 1:02 PM

X *Robert Stann* X

Robert Stann

Frank,

We reviewed all aspects of the siding installation including but not limited to the roof clearance, ground & deck clearance, gaps, trim boards, caulking and flashing (you did not want to see it) with you and conformed our performance under the Siding Contract dated May 11, 2012 with your (and Evelina's) requirements.

Any work that deviated from the manufacturer's specification was a result of numerous lengthy conversations with both you and Evelina. More than once, we advised you of manufacturer's specs and then, while you both watched and at your specific direction, we did as you requested, including adding caulking and repeatedly changing the caulk bead until appearance was approved by Evelina.

Again, as you also know, you approved each side before the next side was started and to the siding placement and/or caulking, before the related progress payment was made.

All the work was completed per the Contract and approved by both you and Evelina, and Starr Construction has fully discharged its obligations to you.

WELLS & STARR - 03/09/13

X *Robert Starr* X

WELLS & STARR



Installation Guidelines for AZEK Trim and AZEK Moulding



Expansion & Contraction

- AZEK products expand and contract with changes in temperature.
- Properly fastening AZEK material along its entire length will minimize expansion and contraction.
- When properly fastened, allow 1/8" per 18 feet of AZEK product for expansion and contraction. Joints between pieces of AZEK material should be glued to eliminate joint separation. See "Gluing".
- When gaps are glued on a long run of AZEK material, allow expansion and contraction space at ends of the run.
- AZEK Trim should be glued to a substrate and mechanically fastened to help minimize expansion and contraction.
- **WARNING:** Dark colors may increase movement and expansion and contraction of PVC Trim.

Spanning

- AZEK products must not be used in load bearing applications, but may be used in spanned applications such as fascias, soffits and ceilings. AZEK material should be installed over a solid backing.
- **FOR SOFFIT INSTALLATIONS:**
 - For spans greater than 16" OC, see below.
 - When using AZEK Beadboard, see considerations below.
- **FOR CEILING INSTALLATIONS:**
 - For spans greater than 16" OC, see below.
 - If temperature at time of installation is 40°F or below, spans need to be decreased to 12".
 - When using AZEK Beadboard, see consideration below.
- **AZEK BEADBOARD SPANNING CONSIDERATION:**
 - For both 1/2" and 5/8" AZEK Beadboard, run boards perpendicular to structure when possible to create the shortest possible run of material.
 - When using 1/2" AZEK Beadboard, use 12" OC framing as well as use a high quality construction grade polyurethane adhesive on joists.
 - For spans greater than 12" OC, use 5/8" AZEK Beadboard or use a minimum 1/2" backer such as plywood or OSB with construction grade adhesive and mechanical fastening a minimum of every 8". Fasteners should hit joist or framing when possible.
 - When using 5/8" AZEK Beadboard, use 16" OC framing as well as use a high quality construction grade polyurethane adhesive on joists. For spans greater than 16" OC, see below.
- For spans greater than 16" OC, use a minimum 1/2" backer such as plywood or OSB with construction grade adhesive and mechanical fastening a minimum of every 16". Fasteners should hit joist or framing when possible.
- Never span AZEK products more than 16" without utilizing instructions above. Proper fastening will help reduce the possibility of excessive movement from expansion and contraction.
- With all Beadboard or Trim ceiling and soffit installations, follow good building practices and ensure adequate ventilation is provided.

AZEK Trim is the #1 brand of trim.

**AZEK products are the perfect replacement for wood in
all non-stress and non-load bearing applications.**

These guidelines cover the general installation considerations for AZEK Trim and AZEK Moulding. See specific installation information for Universal Skirt Board, Integrated Drip Edge, Rabbeted Cornerboard, Finish Grade Trim, Water Table, and Garage Door Thermostop.

Guideline

From Wikipedia, the free encyclopedia

"Guideline" is the NATO reporting name for the Soviet SA-2 surface-to-air missile.

A **guideline** is a statement by which to determine a course of action. A guideline aims to streamline particular processes according to a set routine or sound practice. By definition, following a guideline is never mandatory. Guidelines are not binding and are not enforced. (U.S. Dept. of Veterans Affairs, <http://www.va.gov/trm/TRMGlossaryPage.asp>)

Guidelines may be issued by and used by any organization (governmental or private) to make the actions of its employees or divisions more predictable, and presumably of higher quality.

Examples or guidelines are:

- EASE Guidelines for Authors and Translators of Scientific Articles
- Federal Sentencing Guidelines
- Guidelines for Examination in the European Patent Office
- Medical guidelines
- Human interface guidelines
- Programming style guidelines
- UNQEGN Toponymic Guidelines

Retrieved from "<http://en.wikipedia.org/w/index.php?title=Guideline&oldid=609906871>"

Categories: Official documents

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Contacts

Contact at AZEK that verified that AZEK publishes Guidelines as just that a GUIDELINE. Contractors are in the field and no conditions can be different.

Dave Whitlock — AZEK (570)558-8077

Witness to the daily siding requests of Frank & Evelina Draper
Ryan Kopaz — US Marine (703)582-2161

Starr Construction Inc.

September 18, 2013

Commonwealth of Virginia
Department of Professional and Occupational Regulations
9960 Maryland Drive, Suite 400
Richmond, VA 23233-1485

Re: File No. 201-00547
Starr Construction, Inc.

Dear Compliance & Investigations Division of the Virginia DPOR,

I met Frank and Evelina Draper for the first time in mid January 2012. They received information about Starr Construction, from Jim Ernst at from Ferguson Enterprises, when they were in the store looking at bathroom fixtures. When we met with them in January they had a list of several projects that they wanted to do in their house. The windows and siding were included in that list.

We began getting window quotes from TW Perry in mid February and after Drapers made several changes in the windows, from the hardware style and color, the type of screens and whether or not the grills would be removable or between the glass, we were finally able to submit a Proposal in April. They had also asked for a Proposal for their hall bathroom and that was delivered on April 21, 2012. Once they had the windows & siding proposal and the hall bath proposal, they wanted to have the price reduced with more work to be included. (See attached siding 1 document).

Draper's Windows & Siding Contract was sent to them on May 14, 2012, via email, at 6:28PM and that was the only Window and Siding Contract that they received. There were no changes to the Contract made after that date. After many changes to the windows, the order was finally placed with Home Depot on May 30, 2013.

Prior to doing the windows and siding, Starr Construction had done work for the Draper's. Because this was not our first project with them, I was very much aware that everything must meet their expectations and approval, before any progress payments would be made.

Frank dictated all aspects of the job, right from the start of the job. We told both Frank and Evelina Draper that we would be starting in the back of the house, the lowest point, so the siding would match up as we worked our way around the house. Evelina did not want us to start at the back of the house, she was having company and did not want her guests to see the scaffolding set up in the back..

7337 Wickford Drive, Alexandria, VA 22315 (703)921-0685

We arrived at the job site every morning between 7 – 7:15AM and every morning, before we could start work, I had extensive meetings with Frank and Evelina. During the meetings, they would point out the areas of the siding that need to be corrected or changed because they did not like the appearance. They had to approve how the seams of the siding would run and they requested a “pattern”. They had issues with the garage side of the house because of the trusses, they did not like the way the siding needed to be attached to the house. They wanted a specific pattern. Frank Draper said we didn’t need to change that side, but make sure the pattern is on the other sides of the house.

Evelina Draper came to us on more than one occasion and asked us to fill the nail holes. They were very adamant that they did not want to see the flashing – which is why the siding is right next to the house, without the spacing, per Hardie Plank. We had to have Evelina Draper’s approval on how the caulking was applied. We provided her several examples of how it could be applied and then we had to remove what she did not like.

Once we got to the front of the house, we had to wash the pollen off 3 times before it would meet their approval. Their requests were very specific and often required choices to be made i.e. Which way did Evelina want the caulk bead? A, B, or C. The items could not be put in writing – they were by example. Many times the siding had to be removed and redone in order for it to meet their approval, so we could proceed.

Frank Draper emailed us in January regarding his Azek Bead Board and asked for a copy of the bead board invoice and information regarding installation to be completed. I offered to talk to Azek directly to discuss the issue. Between late February and Early March, I had numerous conversations with Dave Whitlock, from Azek regarding Frank Draper and his bead board ceiling issues. In my conversations with Dave, it was found that Frank Draper had completed and submitted information to Azek, and represented it to be from Starr Construction that was incorrect regarding the installation of the bead board, adhesive used, fasteners etc.

Before my response to Frank Draper, March 10, 2013, all the items were reviewed with Dave Whitlock from Azek. He was confident that my proposed solution would correct Draper’s bead board ceiling issue. I was always willing to work with Frank Draper to correct the issue. Because he would still be responsible for any additional charges that were either not covered in the original Change Order or because of any “adverse or unforeseen circumstances” under the window and siding Contract this seem to be unacceptable to him. Initially he wanted the ceiling corrected and when I offered the solution that was approved by Dave Whitlock from Azek, he was longer interested in a solution to correct the problem.

As a contractor, I take great pride in my work and complete customer satisfaction is my goal. In 35 years I have never worked for customers like Frank and Evelina Draper. I do not believe that any contractor could perform work to their satisfaction. They had complained on numerous occasions about other contractors and pointed out how they fired 2 painters and their kitchen contractor.

I went above and beyond to meet their requests so that each side of the house met Frank and Evelina Draper’s approval. Any area that was not installed or finished per Hardie Plank

7337 Wickford Drive, Alexandria, VA 22315 (703)921-0685

Specifications was a direct result of the requests made by the Draper's. Because of all of their extra requests, requirements and changes, the job took much longer than expected. When their project was completed and the final payment issued on August 25, 2012, the Draper's siding had been approved by them and completed, to their specifications.

I will be happy to provide you with names of witnesses that can verify that the items that Frank and Evelina Draper do not like now, they had requested in July/August 2012. I also have over 330 emails from the Drapers for work they wanted to have completed then changed out they wanted it completed. In May 2013, I finally had to consult with my attorney from Holland & Knight and with all of the information it was determined that we have completed the work as Draper's required. We reviewed all aspects of the installation with both Frank and Evelina Draper and conformed our performance under the siding Contact dated May 11, 2012.

Sincerely,

Robert Starr
License #2505053948

Contacts

Contact at AZEK that verified that AZEK publishes Guidelines as just that a GUIDELINE. Contractors are in the field and no conditions can be different.

Dave Whitlock – AZEK (570)558-8077

Witness to the daily siding requests of Frank & Evelina Draper... — — — —

Ryan Kopaz – US Marine (703)582-2161

VIRGINIA DEPARTMENT OF PROFESSIONAL
AND OCCUPATIONAL REGULATION
COMPLIANCE & INVESTIGATIONS DIVISION
9960 MAYLAND DRIVE, SUITE 400
RICHMOND, VA 23233-1463

REPORT OF FINDINGS

BOARD: Board for Contractors
DATE: May 30, 2014 (Revised September 5, 2014 – MNC)

FILE NUMBER: 2014-00547
RESPONDENT: Starr Construction, Inc.
LICENSE NUMBER: 2705053948
EXPIRATION: January 31, 2016

SUBMITTED BY: Kelley P. Tyler, Investigator
APPROVED BY: Judy Duff, Investigations Supervisor

COMMENTS:

None.

Starr Construction, Inc. ("Starr Construction") was at all times material to this matter a licensed Class A Contractor in Virginia (No. 2705053948).

Based on the analysis and/or investigation of this matter, there is probable cause to believe the respondent has committed the following violation(s) of the Code of Virginia and/or Board's regulation(s):

BACKGROUND:

On August 23, 2013, the Compliance & Investigations Division of the Department of Professional and Occupational Regulation received a written complaint from Frank and Evelina Draper, ("Draper") regarding Starr Construction. (Exh. C-1)

On January 29, 2000, Starr Construction was issued a Class A contractor license with the Building contractors (BLD) classification and Home improvement contracting (HIC) specialty (No. 2705053948). Robert William Starr ("Starr") is the Qualified Individual, Designated Employee and a member of Responsible Management for Starr Construction. (Exh. I-1)

On May 30, 2012, Draper entered into a contract ("Contract") with Starr Construction for \$44,938.02 to install new Anderson Windows and hang new Hardie Plank lap siding at 1173 Old Stable Road, Great Falls, VA 22102 ("the subject property"). The Contract was signed by Starr on behalf of Starr Construction. (Exhs. C-2 & R-2)

On July 16, 2012, a Time and Material Agreement ("T&M") was entered into for Time and Material work to be billed at \$170.00 per hour. (Exh. C-3)

On August 4, 2012, a Change Order ("CO") was entered into for \$4,500.00 to install PVC Bead wainscoting on the front porch ceiling and lighting at \$150.00 per light or fan. Draper requested to have four (4) recessed lights and one (1) fan installed. (Exh. C-4).

Draper paid Starr \$47,695.64 for the work. (Exh. C-9)

1. Board Regulation

18 VAC 50-22-260. Filing of charges; prohibited acts.

B. The following are prohibited acts:

31. Failure to obtain written change orders, which are signed by both the consumer and the licensee or his agent, to an already existing contract.

Historical Notes:

Derived from VR220-01-2:1 §5.7, eff. March 31, 1995; amended, Virginia Register Volume 17, Issue 21, eff. September 1, 2001; Volume 22, Issue 8, eff. February 1, 2006.

Print Date: April 1, 2010

FACTS:

Starr commenced work in early July, 2012. (Exh. I-2)

The Contract specified, in part:

- Install new Anderson Windows and hang new Hardie Plank siding.
- Windows and siding will be installed per Vendor guidelines and to applicable building codes.

(Exhs. C-2 & R-2)

James Hardie installation requirements specified, in part:

- Provide a 2" minimum clearance between the roofing and the bottom edge of the siding and trim.

- Install siding and trim products in compliance with local building code requirements for clearance between the bottom edge of the siding and the adjacent finished grade.
- Maintain a 2" minimum clearance between James Hardie products and paths, steps and driveways.
- Maintain a 2" minimum clearance between James Hardie products and decking material.
- Maintain a 1/4" clearance between the bottom of James Hardie products and horizontal flashing. Do not caulk gap.
- Flashing needs to be tucked under the water resistive barrier and over the Flat Tabs. Do not caulk between the siding and the flashing.
- 1/8" caulked gap is left between siding and the side trim pieces.
- Install factory ends of planks at butt joints. Ends of planks must land over a stud.
- Stagger butt joints a minimum of 2 stud bays for 16-in. O.C. framing.
- Nailing pattern – 2 fasteners every 16" for 4" and 6" trim.

(Exh. C-5)

On or about May 15, 2013, an Installation Specialist with James Hardie Building Products, Inc.¹ performed an inspection of the subject property. In a James Hardie Corrective Action Plan, the Installation Specialist outlined the following observations:

- Roof clearance – minimum 2" clearance
- Deck, porch, patio clearance – minimum 2" clearance. 1 1/4" starter strip installed
- Horizontal Flashing – all trim must be flashed. Leave 1/4" above flashing.
- Butt Joint Stagger – 4-course stagger. Skip one stud bay each course.
- Fastener/Tab Spacing – 2 – 16" (4"x6" trim), 3 – 16" (8" trim)

(Exhs. C-6 & I-2)

Draper advised that Starr failed to install flashing on twelve (12) single windows, five (5) double windows, two (2) doorways and two (2) other trim boards. (Exh. C-1)

James Hardie installation requirements specified, in part:

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

- Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch-up applicator. Touch-up paint should be used sparingly.
- If large areas require touch-up, replace the damaged area with new HardiePlank® lap siding with ColorPlus® Technology.

¹ James Hardie Building Products, Inc. is the fiber cement siding manufacturer where the contracted siding was purchased. (Exh. C-6)

- Laminate sheet must be removed immediately after installation of each course.
- Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus® product dealer.
- Treat all other non-factory cut edges using the ColorPlus Technology edge coaters, available from your ColorPlus product dealer.

(Exh. C-5)

Draper stated to Investigator Kelley Tyler ("Investigator Tyler"), the Board's agent that Starr treated the nail heads with caulking and failed to use the required ColorPlus Technology touch-up applicator for the nail heads. Draper did request the nail heads and butt-ends be caulked, even though Starr advised against it, on one side of the subject property. (Exh. I-2)

On May 19, 2013, Draper notified Starr Construction of the problems with the installation of the Hardie Plank Lap Siding. (Exh. C-7).

In three separate e-mails to Draper between the dates of May 27, 2013 and June 26, 2013, Starr stated that any work deviated from the manufacturer's specifications was a result of numerous lengthy conversations with Draper. That more than once, Starr advised Draper of the manufacturer's specifications and that Draper did not want to see the flashing. Starr further advised that the installation of lap siding on each side was approved by Draper before the next side was started. (Exh. R-3)

Starr advised, in part, in his response and during an interview on November 25, 2013 with Investigator Tyler, that Draper did not want to see the flashing which is why the siding is right next to the house, without the spacing per Hardie Plank. Starr had installed the siding but then Draper did not like it so Starr removed the siding and reinstalled it without the clearances. Any area that was not installed or finished per Hardie Plank specifications was in consultation with Draper. (Exhs. R-1 & I-3)

Starr failed to obtain a written change order addressing Draper's instruction to deviate from vendor guidelines as stated in the contract.

2. Board Regulation

18 VAC 50-22-260. Filing of charges; prohibited acts.

B. The following are prohibited acts:

6. Misconduct in the practice of contracting.

Historical Notes:

Derived from VR220-01-2:1 §5.7, eff. March 31, 1995; amended, Virginia Register Volume 17, Issue 21, eff. September 1, 2001.

FACTS:

In addition to the facts outlined above:

The contract specified, in part, the owners will be responsible for and will be billed separately for the cost of building permit(s). (Exh. C-2)

Between the dates of May 30, 2012 and August 4, 2012, per the T&M Invoices Starr installed a hose bib, relocated an existing soffit light, added an additional light 3' in on opposite end of garage, added one switch with existing soffit garage light, added one electrical GFI outlet below back deck window, installed two outlets to the left of the front door, one additional owner provided soffit light. (Exh. C-8)

The 2009 Virginia Construction Code (Part I of the Virginia Uniform Statewide Building Code) – Effective March 1, 2011 states, in part:

108.1 When applications are required. **Application for a permit shall be made to the building official and a permit shall be obtained prior to the commencement** of any of the following activities, except that applications for emergency construction, alterations or equipment replacement shall be submitted by the end of the first working day that follows the day such work commences. In addition, the building official may authorize work to commence pending the receipt of an application or the issuance of a permit.

1. Construction or demolition of a building or structure. Installations or alterations involving (i) the removal or addition of any wall, partition or portion thereof, (ii) any structural component, (iii) the repair or replacement of any required component of a fire or smoke rated assembly, (iv) the alteration of any required means of egress system, (v) **water supply and distribution system**, sanitary drainage system or vent system, (vi) **electric wiring**, (vii) fire protection system, mechanical systems, or fuel supply systems, or (viii) any equipment regulated by theUSBC. (emphasis added)

On May 17, 2014, Makely issued a Corrective Work Order to Starr for failure to obtain the required plumbing and electrical permits. (Exh. W-1)



COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

Terence R. McAuliffe
Governor

Maurice Jones
Secretary of
Commerce and Trade

Jay W. DeBoer
Director

July 21, 2014

Starr Construction Inc
Attn: Robert William Starr, President
7337 Wickford Drive
Alexandria, VA 22315

**Re: File No. 2014-00547
Starr Construction Inc**

Dear Mr. Starr:

The above-referenced file has been reviewed by a staff member and/or a member of the Board for Contractors ("the Board"). If accurate, the information in the file indicates probable violation(s) of the Board's regulations and/or laws.

A Consent Order is being offered for your consideration in lieu of further disciplinary proceedings. Enclosed is an information sheet regarding the Consent Order process. If you decide to accept this Consent Order:

1. Complete the last page;
2. Sign it in the space provided; and
3. Return the ENTIRE Consent Order to my attention on or before **August 4, 2014.**

If you accept the Consent Order, please do not send your monetary penalty at this time. The Consent Order must be reviewed and accepted by the full Board before it becomes final. You will be notified of the Board's decision and when the monetary penalty will be due.

If you wish to make a counter-offer, please provide it in writing along with your reasons why it should be accepted. Do not make any changes to this Consent Order. Your counter-offer will be reviewed by Department staff and/or a Board member. If appropriate, the terms of the Consent Order would be modified and a revised Consent Order would be sent to you for your signature.

Your voluntary acceptance of the Consent Order and the Board's ultimate approval will create a record of violation of Board regulations and/or laws, which will be of public record.

If you do not contact our office on or before August 4, 2014, regarding this Consent Order, this offer will be void and the Board will proceed with further disciplinary action.

If the matter is not resolved through a Consent Order, the Board will convene an Informal Fact-Finding Conference ("IFF Conference") pursuant to §§ 2.2-4019 and 2.2-4021 of the Code of Virginia. After the IFF Conference, a Summary, which includes a recommendation, will be forwarded to the Board for review. If the Board determines that you have violated the regulations, the Board is authorized by law to impose the following sanctions:

- Remedial/Continuing Education
- Deny renewal
- Suspension
- Revocation
- Probation
- Monetary penalty up to \$2,500.00 for each violation.

Thank you for your cooperation in this matter. If you have any questions, please contact me at (804) 367-8524.

Sincerely,

Michelle N. Couch/smw

Michelle N. Couch
Legal Analyst
Complaint Analysis and Resolution

Enclosures

MNC/smw

*Michelle. Couch at
DPOR,
Virgi. Gov*

*Fax #
866-282-3932*

**IN THE
COMMONWEALTH OF VIRGINIA
BOARD FOR CONTRACTORS**

Re: Starr Construction Inc
Alexandria, VA 22315

File Number 2014-00547
License Number 2705053948

CONSENT ORDER

Respondent Starr Construction Inc ("Starr Construction Inc") recognizes and acknowledges being subject to and bound by the Regulations of the Board for Contractors ("Board"), as well as by all other applicable Virginia laws.

Starr Construction Inc knowingly and voluntarily waives any proceedings for this matter under the Administrative Process Act, §§ 2.2-4019, 2.2-4020, and 2.2-4021 of the 1950 Code of Virginia, as amended.

Board's Regulations provides:

18 VAC 50-22-200. Remedial education, revocation or suspension; fines.

The board may require remedial education, revoke or suspend a license or fine a licensee when a licensee has been found to have violated or cooperated with others in violating any provision of Chapter 11 (§ 54.1-1100 et seq.) of Title 54.1 of the Code of Virginia, or any regulation of the board.

The Report of Findings, which contains the facts regarding the regulatory and/or statutory issues in this matter, is incorporated with the Consent Order.

By signing this Consent Order, Starr Construction Inc acknowledges an understanding of the charges and admits to the violation(s) of the Counts as outlined in the Report of Findings. Starr Construction Inc consents to the following term(s):

Count 1:	18 VAC 50-22-260.B.5	\$1,000.00
Count 2:	18 VAC 50-22-260.B.6	\$ 850.00
SUB-TOTAL (MONETARY PENALTIES)		\$1,850.00
BOARD COSTS		\$ 150.00
TOTAL		\$2,000.00

Further, for violation of Counts 1 and 2, Starr Construction Inc agrees to have a member of Responsible Management successfully complete a Board-approved remedial education class.

Any monetary penalties, costs, and/or sanctions are to be paid/performed within ninety days of the effective date of this Consent Order unless otherwise specified above. Starr Construction Inc acknowledges any monetary penalty and/or costs as a debt to the Commonwealth and agrees that in the event of a default, or the return of a check for insufficient funds, Starr Construction Inc will be responsible for all reasonable administrative costs, collection fees, or attorney's fees incurred in the collection of any funds due.

Starr Construction Inc acknowledges that failure to pay any monetary penalty or costs and/or to comply with all terms of this Order within the noted time period shall result in the suspension, unless otherwise specified above, of Starr Construction Inc's license until such time as there is compliance with all terms of this Order. Starr Construction Inc understands the right to have this license action considered in an informal conference pursuant to the Administrative Process Act §§ 2.2-4019 and 2.2-4021 of the 1950 Code of Virginia, as amended, but knowingly and voluntarily waives any rights to the proceeding and hereby waives any further proceedings under the Administrative Process Act §§ 2.2-4020 and 2.2-4021 of the 1950 Code of Virginia, as amended.

The effective date of this Order shall be the date of execution by the Board.

SEEN AND AGREED TO:

The undersigned represents and affirms that he/she has the authority to legally bind Starr Construction Inc, to this Consent Order. The individual, by his/her signature below, acknowledges he/she read the Consent Order, understands it, and agrees that Starr Construction Inc, shall be bound by its terms and conditions.

Signature

Date

Printed Name and Title

SO ORDERED:

Entered this _____ day of _____, 2014.

Board for Contractors

BY: _____
Jay W. DeBoer, Secretary

EOO

Starr Construction, Inc.

August 4, 2014

Commonwealth of Virginia
Dept. of Professional and Occupational Regulations
9960 Maryland Drive, Suite 400
Richmond, VA. 23233-1485

Re: File No 2014-00547
Starr Construction, Inc.

Dear Michelle,

Thank you for the Consent Order offer dated July 21, 2014, but I do not accept your offer for all of the reasons stated below:

1. All siding & trim work was performed in accordance to the Contract documents. More specifically, we reviewed all aspects of the installation with the Draper's and conformed our performance under the Siding Contract dated May 11, 2012 with the Draper's requirements.

"J Resolution of Design, Construction and Specification Issues: *The Company reserves the right to make such non-substantive (legally non-material) deviations in the plans and specifications as becomes necessary, in the opinion of the Company, due to site or job conditions, after consultation with the Owner.*"

Any work that deviated from the manufacturer's specification was a result of numerous lengthy conversations with both Frank and Evelina Draper. More than once, they were advised of manufacturer's specs and at Draper's specific direction, we did as they requested. They had to approve each side as to the siding placement and/or caulking, before the related progress payment was made.

On June 25, 2014, I met with Melissa Smars and James Makely, from Fairfax County at the Drapers house at 1173 Old Stable Road, McLean, VA 22102. I also brought with me a witness that verified that both Frank and Evelina Draper dictated how they wanted the siding installed. During the meeting with Fairfax County I informed Melissa Smars that I disputed the following:

Violation #1 Siding Installed Improperly section b – h. It was stated that it was in violation of Section R703.3.2, horizontal siding, of the 2009 Virginia Residential Code (VRC). Fiber Cement siding is not covered under this code. Under Fairfax County Code, approved manufacturers guidelines are only one (1) of the installation options. Fairfax County does not inspect siding and it was installed per the Contract and homeowner.

Violation # 2 Porch Ceiling Finish - It was stated that it was in violation of Sections R805.1 and R703.11.1 of the 2009 Virginia Residential Code (VRC). R805.1 states to install it according to requirements for interior walls and R703.11.1 is for Vinyl not PVC. Also, Azek has an Installation Guideline.

7337 Wickford Drive, Alexandria, VA 22315 (703)921-0685 stconst@aol.com

A guideline is a statement by which to determine a course of action. A guideline aims to streamline particular processes according to a set routine or sound practice. By definition, following a guideline is never mandatory. Guidelines are not binding and are not enforced.

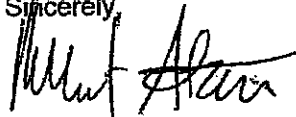
Initially, Frank Draper's issue was the Azek ceiling. I provided him with a solution but it would have cost Frank Draper additional money – per the original Contract, it would have been covered under unforeseen circumstances. Frank Draper refused the solution.

I will accept Violation # 3 – Work without a permit. This would have been corrected but Melissa Smars and Dave Makely advised not to move forward with obtaining permits and scheduling inspections as of yet.

The last contact that I had from Fairfax County and Melissa Smars was July 11, 2014. She stated she was still working through the issues.

I am making a counter offer of \$500 for the Consent Order for work without a permit. The siding was installed per Frank and Evelina Draper's requirements for its appearance. There was no negligence or incompetence with the installation. They have suffered no damages as a result of it being installed per their guideline and it has been 2 years. We have even received additional calls for work as a result of neighbors seeing Draper's siding.

Sincerely,



Robert Starr
License #2505053948

Starr Construction, Inc.

September 2, 2014

Department of Public Works & Environmental Services
12055 Government Center Parkway, Suite 334
Fairfax, VA 22035

Re: Case # 201307015 SR # 99453.

Dear James,

Thank you for the reissued Corrective Work Order dated August 24, 2014, but I reject for all of the reasons that are stated below:

1. All siding & trim work was performed in accordance to the Contract documents. More specifically, we reviewed all aspects of the installation with the Draper's and conformed our performance under the Siding Contract dated May 11, 2012 with the Draper's requirements.

As stated in the Contract:

"J. Resolution of Design, Construction and Specification Issues: *The Company reserves the right to make such non-substantive (legally non-material) deviations in the plans and specifications as becomes necessary, in the opinion of the Company, due to site or job conditions, after consultation with the Owner. "*

Any work that deviated from the manufacturer's specification was a result of numerous lengthy conversations with both Frank and Evelina Draper. More than once, they were advised of manufacturer's specs and at Draper's specific direction, we did as they requested. They had to approve each side as to the siding placement and/or caulking, before the related progress payment was made.

On June 25, 2014, we met with you and Melissa Smars at the Drapers house at 1173 Old Stable Road, McLean, VA 22102. My witness, who worked on the house, was also there and he verified that both Frank and Evelina Draper dictated how they wanted the siding to be installed. If needed, he will be happy to provide you with a written statement.

Violation #1 Siding Installed Improperly section b – h. It was stated that it was in violation of Section R703.3.2, horizontal siding, of the 2009 Virginia Residential Code (VRC). Fiber Cement siding is not covered under this code. Under Fairfax County Code, approved manufacturers guidelines are only one (1) of the installation options. Fairfax County does not inspect siding and it was installed per the Contract and homeowner.

Violation # 2 Porch Ceiling Finish - It was stated that it was in violation of Sections R805.1 and R703.11.1 of the 2009 Virginia Residential Code (VRC). R805.1 states to install it according to requirements for interior walls and R703.11.1 is for Vinyl not PVC. Also, Azek has an **Installation Guideline**.

7337 Wickford Drive, Alexandria, VA 22315 (703)921-0685 stconst@aol.com

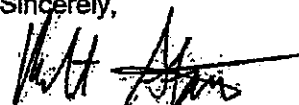
"A guideline is a statement by which to determine a course of action. A guideline aims to streamline particular processes according to a set routine or sound practice. By definition, following a guideline is never mandatory. Guidelines are not binding and are not enforced." Attached

Initially, Frank Draper's issue was the Azek ceiling. I provided him with a solution but it would have cost Frank Draper additional money – per the original Contract, it would have been covered under "Unforeseen Circumstances". Frank Draper refused the solution.

I will accept Violation # 3 – Work without a permit. This would have been corrected by now but we were told to hold off on this.

The siding was installed per Frank and Evelina Draper's requirements for its appearance. There was no negligence or incompetence with the installation. They have suffered no damages as a result of it being installed per their guideline and it has been over 2 years. We have even received additional calls for work as a result of neighbors seeing Draper's siding.

Sincerely,



Robert Starr
License #2505053948

7337 Wickford Drive, Alexandria, VA 22315 (703)921-0685 stroonst@aol.com

Guideline

From Wikipedia, the free encyclopedia

"Guideline" is the NATO reporting name for the Soviet SA-2 surface-to-air missile.

A **guideline** is a statement by which to determine a course of action. A guideline aims to streamline particular processes according to a set routine or sound practice. By definition, following a guideline is never mandatory. Guidelines are not binding and are not enforced. (U.S. Dept. of Veterans Affairs, <http://www.va.gov/vim/TRMGlossaryPage.asp>)

Guidelines may be issued by and used by any organization (governmental or private) to make the actions of its employees or divisions more predictable, and presumably of higher quality.

Examples or guidelines are:

- EASE Guidelines for Authors and Translators of Scientific Articles
- Federal Sentencing Guidelines
- Guidelines for Examination in the European Patent Office
- Medical guidelines
- Human interface guidelines
- Programming style guidelines
- UNGEGN Toponymic Guidelines

Retrieved from "<http://en.wikipedia.org/w/index.php?title=Guideline&oldid=609906871>"

Categories: Official documents

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COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

Terence R. McAuliffe
Governor

September 8, 2014

Maurice Jones
Secretary of
Commerce and Trade

Mr. Robert William Starr, President
Starr Construction, Inc.
7337 Wickford Drive
Alexandria, Virginia 22315

Re: **File No. 2014-00547**
Starr Construction, Inc.

Dear Mr. Starr:

Pursuant to your recent letter and supporting documents, please find enclosed a revised Consent Order, which includes a change to the Report of Findings regarding Count 1 from negligence and/or incompetence in the practice of contracting (18 VAC 50-22-260.B.5) to failure to obtain written change orders (18 VAC 50-22-260.B.31). In addition, the monetary penalties for both Counts 1 and 2 were significantly reduced.

If you are in agreement, please sign the enclosed Consent Order and return the ENTIRE Consent Order to my attention on or before **September 22, 2014.**

If you accept the Consent Order, please do not send your monetary penalty at this time. The Consent Order must be reviewed and accepted by the Board for Contractors ("the Board") before it becomes final. You will be notified of the Board's decision and when the monetary penalty will be due.

Your voluntary acceptance of the Consent Order and the Board's ultimate approval will create a record of violation of Board regulations and/or laws, which will be of public record.

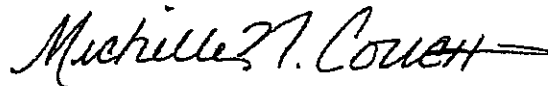
If you do not contact our office on or before September 22, 2014, regarding this Consent Order, this offer will be void and the Board will proceed with further disciplinary action.

If the matter could not be resolved through a Consent Order, the Board may convene an Informal Fact-Finding Conference ("IFF Conference") pursuant to §§ 2.2-4019 and 2.2-4021 of the Code of Virginia. After the IFF Conference, a Summary, which includes a recommendation, will be forwarded to the Board for review. If the Board determines that you have violated the regulations, the Board is authorized by law to impose the following sanctions:

- Remedial/Continuing Education
- Deny renewal
- Suspension
- Revocation
- Probation
- Monetary penalty up to \$2,500.00 for each violation.

Thank you for your cooperation in this matter. If you have any questions, please contact me at (804) 367-8524.

Sincerely,



Michelle N. Couch
Lead Legal Analyst
Complaint Analysis and Resolution

Enclosure

**IN THE
COMMONWEALTH OF VIRGINIA
BOARD FOR CONTRACTORS**

Re: Starr Construction Inc
Alexandria, VA 22315

File Number 2014-00547
License Number 2705053948

CONSENT ORDER

Respondent Starr Construction Inc ("Starr Construction Inc") recognizes and acknowledges being subject to and bound by the Regulations of the Board for Contractors ("Board"), as well as by all other applicable Virginia laws.

Starr Construction Inc knowingly and voluntarily waives any proceedings for this matter under the Administrative Process Act, §§ 2.2-4019, 2.2-4020, and 2.2-4021 of the 1950 Code of Virginia, as amended.

Board's Regulations provides:

18 VAC 50-22-200. Remedial education, revocation or suspension; fines.

The board may require remedial education, revoke or suspend a license or fine a licensee when a licensee has been found to have violated or cooperated with others in violating any provision of Chapter 11 (§ 54.1-1100 et seq.) of Title 54.1 of the Code of Virginia, or any regulation of the board.

The Report of Findings, which contains the facts regarding the regulatory and/or statutory issues in this matter, is incorporated with the Consent Order.

By signing this Consent Order, Starr Construction Inc acknowledges an understanding of the charges and admits to the violation(s) of the Counts as outlined in the Report of Findings. Starr Construction Inc consents to the following term(s):

Count 1:	18 VAC 50-22-260.B.31	\$ 500.00
Count 2:	18 VAC 50-22-260.B.6	\$ 500.00

SUB-TOTAL (MONETARY PENALTIES)		\$1,000.00
BOARD COSTS		\$ 150.00
TOTAL		\$1,150.00

Further, for violation of Counts 1 and 2, Starr Construction Inc agrees to have a member of Responsible Management successfully complete a Board-approved remedial education class.

Any monetary penalties, costs, and/or sanctions are to be paid/performed within ninety days of the effective date of this Consent Order unless otherwise specified above. Starr Construction Inc acknowledges any monetary penalty and/or costs as a debt to the Commonwealth and agrees that in the event of a default, or the return of a check for insufficient funds, Starr Construction Inc will be responsible for all reasonable administrative costs, collection fees, or attorney's fees incurred in the collection of any funds due.

Starr Construction Inc acknowledges that failure to pay any monetary penalty or costs and/or to comply with all terms of this Order within the noted time period shall result in the suspension, unless otherwise specified above, of Starr Construction Inc's license until such time as there is compliance with all terms of this Order. Starr Construction Inc understands the right to have this license action considered in an informal conference pursuant to the Administrative Process Act §§ 2.2-4019 and 2.2-4021 of the 1950 Code of Virginia, as amended, but knowingly and voluntarily waives any rights to the proceeding and hereby waives any further proceedings under the Administrative Process Act §§ 2.2-4020 and 2.2-4021 of the 1950 Code of Virginia, as amended.

The effective date of this Order shall be the date of execution by the Board.

SEEN AND AGREED TO:

The undersigned represents and affirms that he/she has the authority to legally bind Starr Construction Inc, to this Consent Order. The individual, by his/her signature below, acknowledges he/she read the Consent Order, understands it, and agrees that Starr Construction Inc, shall be bound by its terms and conditions.

Signature

Date

Printed Name and Title

SO ORDERED:

Entered this _____ day of _____, 2014.

Board for Contractors

BY: _____
Jay W. DeBoer, Secretary

EOO

Starr Construction, Inc.

September 22, 2014

Commonwealth of Virginia
Dept. of Professional and Occupational Regulations
9960 Maryland Drive, Suite 400
Richmond, VA 23233-1485

Re: File No 2014-00547
Starr Construction, Inc.

Thank you for the revised Consent Order offer dated September 8, 2014, but I do not accept your offer for the reasons stated below:

Violation 18 VAC 50-22-260.B.31. According to Article 3, Section 61-3-3 (9) (attached) *Contents of a Contract - Statement providing that any modification to the contract, which changes the cost, materials, work to be performed, or estimated completion date must be in writing and signed by all parties.*

No Change Order was given for the windows and siding because there were no changes in the cost of the siding and window project, the materials used in the project or the estimated completion date.

Also it states in the Contract, section "J Resolution of Design, Construction and Specification Issues: *The Company reserves the right to make such non-substantive (legally non-material) deviations in the plans and specifications as becomes necessary, in the opinion of the Company, due to site or job conditions, after consultation with the Owner.*"

As a result of numerous lengthy conversations with both Frank and Evelina Draper, any work that deviated from the manufacturer's specification, including how the siding and caulking was installed. We met daily and our work day was dictated by those meetings. If they were not happy with the appearance, the siding was removed and reinstalled or re-caulked. Because Drapers had to approve each side, as to the siding placement and/or caulking, before the related progress payment was made, their actions showed their acceptance of the oral agreement for the siding installation.

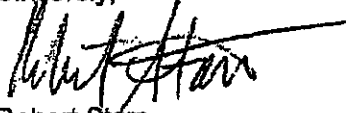
Courts have held that oral statements are not the only means of waiving the requirement of a written change order. Actions or conduct relied upon by the contractor can also create a waiver. S&M Rotogravure Serv., Inc. v. Baer, 252 N.W.2d 913, 920 (Wis. 1977); Son-Shine Grading, Inc. v. ADC Constr. Co., 315 S.E.2d 346, 349-350 (N.C. 1984); Moore Constr. Co., Inc. v. Clarksville Dept. of Elec., 707 S.W.2d 1, 12-13 (Tenn. 1985); Kelly v. Anderson Ridge Assocs., 1994 WL 450285 (Conn. Super.).

A Change Order was issued for the PVC porch ceiling installation because, it both added additional costs and delayed the completion of the project.

7337 Wickford Drive, Alexandria, VA 22315 strconst@aol.com

I will accept Violation # 2 – Work without a permit. This would have been corrected but I still have not received the OK from Melissa Smars or James Makely
I am making a counter offer of \$500 for the Consent Order for work without a permit. The siding was installed per Frank and Evelina Draper's requirements for its appearance. There were daily meetings on how they wanted the siding installed. It has been over 2 years and Drapers have suffered no damages as a result of it being installed per their guideline

Sincerely,



Robert Starr
License #2505053948

Fairfax County, Virginia, Code of Ordinances >> - Fairfax County Code >> CHAPTER 61. - Building Provisions. >> ARTICLE 3. Home Improvement Code—General. >>

ARTICLE 3. Home Improvement Code—General.

Section 61-3-1. Short title.

Section 61-3-2. Contracts—Generally.

~~Section 61-3-3. Contents of contracts.~~

Section 61-3-4. Act of agent considered act of contractor.

Section 61-3-5. Responsibility of contractor to acquire and comply with required permits.

Section 61-3-6. Enforcement of Article.

Section 61-3-7. Inapplicability of Article to certain persons.

Section 61-3-8. Licensee not exempt from compliance with Code.

Section 61-3-9. License required.

Section 61-3-10. Prerequisites for contractor license issuance or renewal.

Sec. 61-3-11. Evidence of fiscal responsibility and reliability.

Section 61-3-12. Bond.

Section 61-3-13. Issuance to certain persons prohibited.

Section 61-3-14. License fee; expiration; renewal.

Section 61-3-15. Denial, suspension or revocation.

Section 61-3-16. Notice of denial, suspension or revocation; contents; service.

Section 61-3-1. Short title.

This Article shall be known and may be cited as the "Home Improvement Code." (9-84-61; 13-95-61; 45-03-61.)

Section 61-3-2. Contracts—Generally.

All home improvement contracts shall be in writing, shall be executed in duplicate with 1 copy to the owner of the property and 1 copy to the contractor, and shall fully and completely set forth the agreement of the parties. The demand for or the receipt of any payments prior to the execution of such a contract with all blanks filled in is hereby specifically prohibited. A copy of the contract form customarily used by the contractor for the performance of home improvement work shall be filed with the application for a home improvement contractor's license required by this Chapter. (45-03-61.)

Section 61-3-3. Contents of contracts.

All contracts for home improvement work shall include, but not be limited to the following:

- (1) A date on which work is to begin and the estimated completion date.
- (2) A statement of the total cost of the contract and the amounts and schedule for progress payments including a specific statement on the amount of the down payment.
- (3) A listing of specified materials and work to be performed which is specifically requested by the consumer.
- (4) A "plain-language" exculpatory clause concerning events beyond the control of the contractor and a statement explaining that delays caused by such events do not

constitute abandonment and are not included in calculating time frames for payment or performance.

- (5) A statement of assurance that the contractor will comply with all state and local requirements for building permits, inspections, and zoning.
- (6) Disclosure of the cancellation rights of the parties.
- (7) For contracts resulting from door to door solicitations, a signed acknowledgement by the consumer that he has been provided with and has read the Department of Professional and Occupational Regulation's statement of protections available to him through the Board for Contractors.
- (8) The contractor's name, address, office telephone number, license/certificate number, expiration date, class of license/certificate and license classifications or specialty services.
- ~~(9) Statement providing that any modification to the contract which changes the cost, materials, work to be performed, or estimated completion date must be in writing and signed by all parties (9-84-61; 13-95-61; 45-03-61.)~~

Section 61-3-4. Act of agent considered act of contractor.

For the purpose of this Article, the act or omission of any agent, while acting on behalf of the contractor, may be considered the act of the contractor. (9-84-61; 13-95-61; 45-03-61.)

Section 61-3-5. Responsibility of contractor to acquire and comply with required permits.

Contractors performing home improvement work shall be responsible for ensuring that the required permits have been obtained in compliance with the VUSBC, that the laws of the County and State are complied with and that all work is performed in accordance with the conditions and terms of such permits. (9-84-61; 13-95-61; 16-98-61; 45-03-61.)

Section 61-3-6. Enforcement of Article.

The Building Official is responsible for the enforcement of this Article. He is authorized to require of any applicant for a license required by this Chapter sufficient information to determine the propriety of issuing such license and is further authorized to require of any licensee sufficient information to determine the propriety of authorizing the continuance and renewal of his license. The Building Official is also responsible for the investigation and prosecution of alleged violations of this Article. Failure of an applicant or licensee to make available such information as the Building Official is authorized to request and failure to cooperate with him in the investigation of violations of this Article shall be grounds for denial, suspension or revocation of a license. (9-84-61; 13-95-61; 45-03-61.)

Section 61-3-7. Inapplicability of Article to certain persons.

This Article shall not apply to any person performing home improvement work on a residential property of which he is the owner or to Class A contractors or Class B contractors or to any public utility, its agent, employees or subcontractors. (9-84-61; 13-95-61; 45-03-61.)

Section 61-3-8. Licensee not exempt from compliance with Code.

Nothing contained in this Article shall excuse any licensee from compliance with all other applicable provisions of this Code, and the Virginia Uniform Statewide Building Code. (9-84-61; 13-95-61; 45-03-61.)

HardiePlank® **HL5** Lap Siding



INSTALLATION REQUIREMENTS - PRIMED & COLORPLUS® PRODUCTS

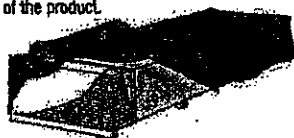
EFFECTIVE AUGUST 2011
Visit www.jameshardie.com for the most recent version.

SELECT CEDARMILL® • SMOOTH • COLONIAL SMOOTH® • COLONIAL ROUGHSAWN® • BEADED CEDARMILL® BEADED SMOOTH • STRAIGHT-EDGE SHINGLE PLANK

IMPORTANT: FAILURE TO INSTALL AND FINISH THIS PRODUCT IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND JAMES HARDIE WRITTEN APPLICATION INSTRUCTIONS MAY LEAD TO PERSONAL INJURY, AFFECT SYSTEM PERFORMANCE, VIOLATE LOCAL BUILDING CODES, AND VOID THE PRODUCT ONLY WARRANTY. BEFORE INSTALLATION, CONFIRM THAT YOU ARE USING THE CORRECT HARDIEZONE™ PRODUCTS INSTRUCTIONS. TO DETERMINE WHICH HARDIEZONE™ APPLIES TO YOUR LOCATION, VISIT WWW.HARDIEZONE.COM OR CALL 1-866-942-7343 (866 9HARDIE)

STORAGE & HANDLING:

Store flat and keep dry and covered prior to installation. Installing siding wet or saturated may result in shrinkage at butt joints. Carry planks on edge. Protect edges and corners from breakage. James Hardie is not responsible for damage caused by improper storage and handling of the product.



CUTTING INSTRUCTIONS

OUTDOORS

1. Position cutting station so that wind will blow dust away from user and others in working area.
2. Use one of the following methods:
 - a. Best:
 - i. Score and snap
 - ii. Shears (manual, electric or pneumatic)
 - b. Better:
 - i. Dust reducing circular saw equipped with a HardieBlade® saw blade and HEPA vacuum extraction
 - ii. Dust reducing circular saw with a HardieBlade saw blade (only use for low to moderate cutting)
 - c. Good:

INDOORS

1. Cut only using score and snap, or shears (manual, electric or pneumatic).
2. Position cutting station in well-ventilated area.

- NEVER use a power saw indoors
- NEVER use a circular saw blade that does not carry the HardieBlade saw blade trademark
- NEVER dry sweep - Use wet suppression or HEPA Vacuum

Important Note: For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best"-level cutting methods where feasible.

NIOSH-approved respirators can be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at www.jameshardie.com to help you determine the most appropriate cutting method for your job requirements. If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

IMPORTANT: To prevent damage to the drip edge, extra care should be taken when removing planks from the pallet, while handling, and when installing with a lap gauge. Please see additional handling requirements on page 4.

GENERAL REQUIREMENTS:

- HardiePlank® lap siding can be installed over braced wood or steel studs spaced a maximum of 24" o.c. or directly to minimum 7/16" thick OSB sheathing. Irregularities in framing and sheathing can mirror through the finished application.
- HardiePlank lap siding can also be installed over foam insulation/sheathing up to 1" thick: When using foam insulation/sheathing, avoid over-driving nails (fasteners), which can result in dimpling of the siding due to the compressible nature of the foam insulation/sheathing. Extra caution is necessary if power-driven nails (fasteners) are used for attaching siding over foam insulation/sheathing.
- A water-resistive barrier is required in accordance with local building code requirements. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements. James Hardie will assume no responsibility for water infiltration. James Hardie does manufacture HardieWrap® Weather Barrier, a non-woven non-perforated housewrap, which complies with building code requirements.
- When installing James Hardie products all clearance details in figs. 3, 4, 5, 6, 7, 8, & 9 must be followed.
- Adjacent finished grade must slope away from the building in accordance with local building codes - typically a minimum of 6" in the first 10'.
- Do not use HardiePlank lap siding in Fascia or Trim applications.
- Do not install James Hardie products, such that they may remain in contact with standing water.
- HardiePlank lap siding may be installed on flat vertical wall applications only.
- DO NOT use stain on James Hardie® products.
- For larger projects, including commercial and multi-family projects, where the span of the wall is significant in length, the designer and/or architect should take into consideration the coefficient of thermal expansion and moisture movement of the product in their design. These values can be found in the Technical Bulletin "Expansion Characteristics of James Hardie® Siding Products" at www.JamesHardie.com.

INSTALLATION:

JOINT TREATMENT

- Joint flashing behind field butt joints is required for ColorPlus and recommended for primed products.
- DO NOT Caulk field butt joints on ColorPlus siding.*
- It is OK to Caulk field butt joints on James Hardie primed siding products that is to be field painted.**
- DO caulk where HardiePlank® meets vertical trim.

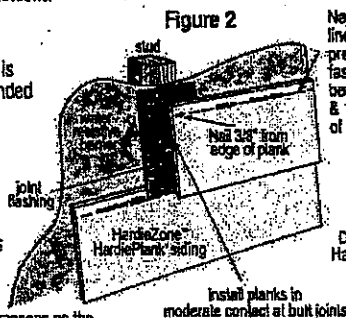
*Note: Caulking at field butt joints is not recommended for ColorPlus for aesthetic reasons as the caulking and ColorPlus will weather differently.

Note: Field painting over caulking may produce a sheen difference when compared to the field painted PrimePlus. *Refer to Caulking section in these instructions.

*For additional information on HardieWrap® Weather Barrier, consult James Hardie at 1-866-4Hardie or www.hardiewrap.com

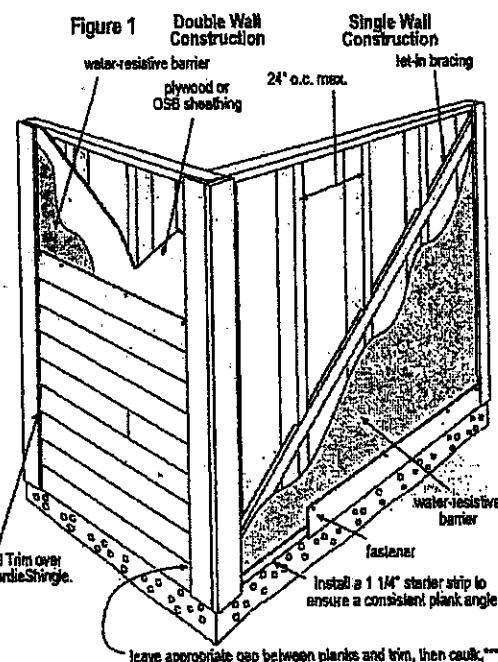
WARNING: AVOID BREATHING SILICA DUST

James Hardie® products contain respirable crystalline silica, which is known to the State of California to cause cancer and is considered by IARC and NIOSH to be a cause of cancer from some occupational sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) use fiber cement shears for cutting or, where not feasible, use a HardieBlade® saw blade and dust-reducing circular saw attached to a HEPA vacuum; (3) wear others in the immediate area; (4) wear a properly-fitted, NIOSH-approved dust mask or respirator (e.g. N-95) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods - never dry sweep. For further information, refer to our installation instructions and Material Safety Data Sheet available at www.jameshardie.com or by calling 1-800-9HARDIE (1-800-942-7343). FAILURE TO ADHERE TO OUR WARNINGS, MSDS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.



Nail line (if nail line is not present place fastener between 3/4" & 1" from top of plank)

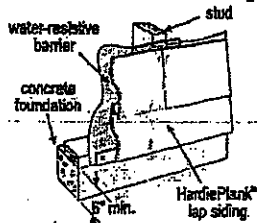
DO NOT install Trim over HardiePlank/HardieShingle.



CLEARANCES

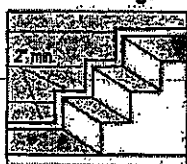
Install siding and trim products in compliance with local building code requirements for clearance between the bottom edge of the siding and the adjacent finished grade.

Figure 3



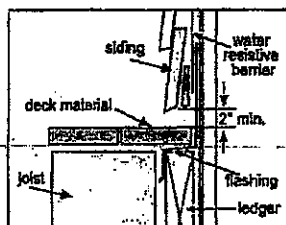
Maintain a 2" minimum clearance between James Hardie® products and paths, steps and driveways.

Figure 4



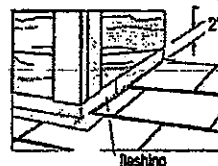
Maintain a 2" minimum clearance between James Hardie products and decking material.

Figure 5



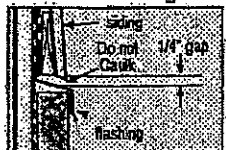
At the juncture of the roof and vertical surfaces, flashing and counterflashing shall be installed per the roofing manufacturer's instructions. Provide a 2" minimum clearance between the roofing and the bottom edge of the siding and trim.

Figure 6



Maintain a 1/4" clearance between the bottom of James Hardie products and horizontal flashing. Do not caulk gap.

Figure 7



Maintain a minimum 1" gap between gutter end caps and siding & trim.

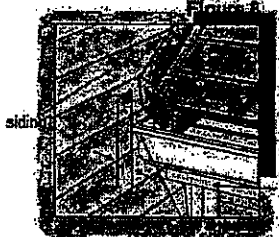
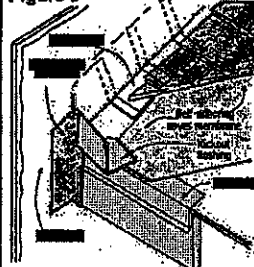


Figure 9



KICKOUT FLASHING

Because of the volume of water that can pour down a sloped roof, one of the most critical flashing details occurs where a roof intersects a sidewall. The roof must be flashed with step flashing. Where the roof terminates, install a kickout to deflect water away from the siding.

It is best to install a self-adhering membrane on the wall before the subfascia and trim boards are nailed in place, and then come back to install the kickout.

Figure 15, Kickout Flashing To prevent water from dumping behind the siding and the end of the roof intersection, install a "kickout" as required by IRC code R905.2.8.3 : "...flashing shall be a min. of 4" high and 4" wide." James Hardie recommends the kickout be angled between 100° - 110° to maximize water deflection

FASTENER REQUIREMENTS **

Blind Nailing is the preferred method of installation for HardiePlank® lap siding products. For Fastening schedule refer to ESSR-2290 at www.jameshardie.com. Pin-backed corners may be done for aesthetic purposes only. Pin-backs shall be done w/finish nails only, and are not a substitute for blind or face nailing.

BLIND NAILING

Nails - Wood Framing

- Siding nail (0.09" shank x 0.221" HD x 2" long)
- 11ga. roofing nail (0.121" shank x 0.371" HD x 1.25" long)

Screws - Steel Framing

- Ribbed Wafer-head or equivalent (No. 8 x 1 1/4" long x 0.375" HD) Screws must penetrate 3 threads into metal framing.

Nails - Steel Framing

- ET & F Panelfast® nails or equivalent (0.10" shank x 0.313" HD x 1-1/2" long) Nails must penetrate minimum 1/4" into metal framing.

OSB minimum 7/16"

- 11ga. roofing nail (0.121" shank x 0.371" HD x 1.75" long)
- Ribbed Wafer-head or equivalent (No. 8 x 1 5/8" long x 0.375" HD).

FACE NAILING

Nails - Wood Framing

- 6d (0.113" shank x 0.267" HD x 2" long)
- Siding nail (0.09" shank x 0.221" HD x 2" long)

Screws - Steel Framing

- Ribbed Bugle-head or equivalent (No. 8-18 x 1-5/8" long x 0.323" HD) Screws must penetrate 3 threads into metal framing.

Nails - Steel Framing

- ET & F pin or equivalent (0.10" shank x 0.25" HD x 1-1/2" long) Nails must penetrate minimum 1/4" into metal framing.

OSB minimum 7/16"

- Siding nail (0.09" shank x 0.221" HD x 1-1/2" long)*

Figure 10

Minimum overlap for Both Face and Blind Nailing

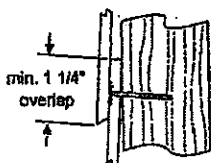
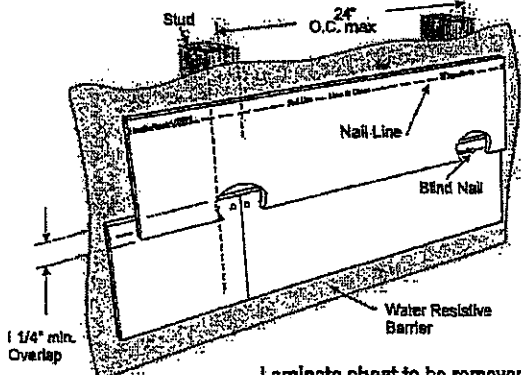
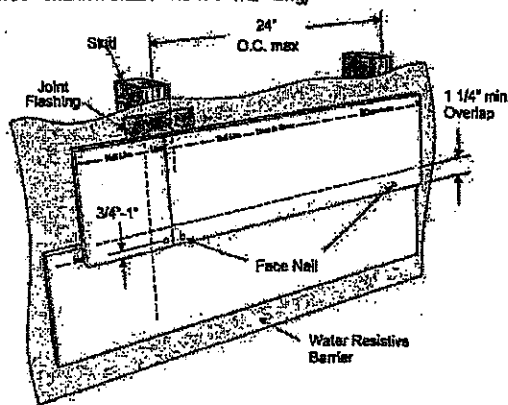


Figure 11



Laminate sheet to be removed immediately after installation of each course for ColorPlus® products.

*The illustration (figure 9) and associated text was reprinted with permission of THE JOURNAL OF LIGHT CONSTRUCTION. For subscription information, visit www.jlconline.com.

* When face nailing to OSB, planks must be no greater than 9 1/4" wide and fasteners must be 12" o.c. or less.

** Also see General Fastening Requirements; and when considering alternative fastening options refer to James Hardie's Technical Bulletin USBT 17 - Fastening Tips for HardiePlank® Lap Siding.

GENERAL FASTENING REQUIREMENTS

Fasteners must be corrosion resistant, galvanized, or stainless steel. Electro-galvanized are acceptable but may exhibit premature corrosion. James Hardie recommends the use of quality, hot-dipped galvanized nails. James Hardie is not responsible for the corrosion resistance of fasteners. Stainless steel fasteners are recommended when installing James Hardie® products near the ocean, large bodies of water, or in very humid climates.

Manufacturers of ACQ and CA preservative-treated wood recommend spacer materials or other physical barriers to prevent direct contact of ACQ or CA preservative-treated wood and aluminum products. Fasteners used to attach HardieTrim Tabs to preservative-treated wood shall be of hot dipped zinc-coated galvanized steel or stainless steel and in accordance to 2009 IRC R317.3 or 2009 IBC 2304.9.5.

- Consult applicable code compliance report for correct fasteners type and placement to achieve specified design wind loads.
- NOTE: Published wind loads may not be applicable to all areas where Local Building Codes have specific jurisdiction. Consult James Hardie Technical Services if you are unsure of applicable compliance documentation.
- Drive fasteners perpendicular to siding and framing.
- Fastener heads should fit snug against siding (no air space). (fig. A)
- Do not over-drive nail heads or drive nails at an angle.
- If nail is countersunk, fill nail hole and add a nail. (fig. B)
- For wood framing, under driven nails should be hit flush to the plank with a hammer (For steel framing, remove and replace nail).
- Do not use aluminum fasteners, staples, or clipped head nails.

PNEUMATIC FASTENING

James Hardie products can be hand nailed or fastened with a pneumatic tool. Pneumatic fastening is highly recommended. Set air pressure so that the fastener is driven snug with the surface of the siding. A flush mount attachment on the pneumatic tool is recommended. This will help control the depth the nail is driven. If setting the nail depth proves difficult, choose a setting that under drives the nail. (Drive under driven nails snug with a smooth faced hammer - Does not apply for installation to steel framing).



Figure A



Figure B



PAINTING

DO NOT use stain on James Hardie® products. James Hardie products must be painted within 180 days for primed product and 90 days for unprimed. 100% acrylic topcoats are recommended. Do not paint when wet. For application rates refer to paint manufacturers specifications. Back-rolling is recommended if the siding is sprayed.

CUT EDGE TREATMENT

Caulk, paint or prime all field cut edges.

CAULKING

For best results use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. Note: OSI Quad as well as some other caulking manufacturers do not allow tooling.

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

- Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch-up applicator. Touch-up paint should be used sparingly. If large areas require touch-up, replace the damaged area with new HardiePlank® lap siding with ColorPlus® Technology.
- Laminate sheet must be removed immediately after installation of each course.
- Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus® product dealer.
- Treat all other non-factory cut edges using the ColorPlus Technology edge coaters, available from your ColorPlus product dealer.

PAINTING JAMES HARDIE® SIDING AND TRIM PRODUCTS WITH COLORPLUS® TECHNOLOGY

When repainting ColorPlus products, James Hardie recommends the following regarding surface preparation and topcoat application:

- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew
- Repriming is normally not necessary
- 100% acrylic topcoats are recommended
- DO NOT use stain or oil/alkyd base paints on James Hardie® products
- Apply finish coat in accordance with paint manufacturers written instructions regarding coverage, application methods, and application temperature

COVERAGE CHART/ESTIMATING GUIDE

Number of 12' planks, does not include waste

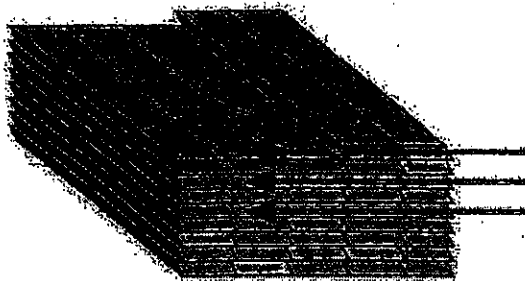
COVERAGE AREA LESS OPENINGS		HARDIEPLANK® LAP SIDING WIDTH									
SQ (1 SQ = 100 sq.ft.)	(exposure)	5 1/4 4	6 1/4 5	7 1/4 6	7 1/2 6 1/4	8 6 3/4	8 1/4 7	9 1/4 8	9 1/2 8 1/4	12 10 3/4	
1		25	20	17	16	16	14	13	13	9	
2		50	40	33	32	30	29	25	25	19	
3		75	60	50	48	44	43	38	38	28	
4		100	80	67	64	59	57	50	50	37	
5		125	100	83	80	74	71	63	63	47	
6		150	120	100	96	89	86	75	75	56	
7		175	140	117	112	104	100	88	88	65	
8		200	160	133	128	119	114	100	100	74	
9		225	180	150	144	133	129	113	113	84	
10		250	200	167	160	148	143	125	125	93	
11		275	220	183	176	163	157	138	138	102	
12		300	240	200	192	178	171	150	150	112	
13		325	260	217	208	193	186	163	163	121	
14		350	280	233	224	207	200	175	175	130	
15		375	300	250	240	222	214	188	188	140	
16		400	320	267	256	237	229	200	200	149	
17		425	340	283	272	252	243	213	213	158	
18		450	360	300	288	267	257	225	225	167	
19		475	380	317	304	281	271	238	238	177	
20		500	400	333	320	296	286	250	250	186	

This coverage chart is meant as a guide. Actual usage is subject to variables such as building design. James Hardie does not assume responsibility for over or under ordering of product.

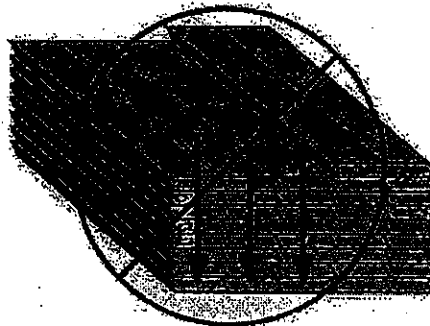
ADDITIONAL HANDLING REQUIREMENTS

IMPORTANT: To prevent damage to the drip edge, extra care should be taken when removing planks from the pallet, while handling, and when installing with a lap gauge. Planks are interlocked together on the pallet, therefore they should be removed from the pallet horizontally (side to side) to allow planks to unlock themselves from one another.

Pull from across the stack



Do not go down the stack



RECOGNITION: In accordance with ICC-ES Legacy Report NER-405, HardiePlank® lap siding is recognized as a suitable alternate to that specified in: the BOCA National Building Code/1999, the 1997 Standard Building Code, the 1997 Uniform Building Code, the 1998 International One- and Two-Family Dwelling Code, the 2003 International Building Code, and the 2003 International Residential Code for One- and Two-Family Dwellings. HardiePlank lap siding is also recognized for application in the following: City of Los Angeles Research Report No. 24862, State of Florida listing FL#606, Dade County, Florida NOA No. 02-0728.02, U.S. Dept. of HUD Materials Release 1263c, Texas Department of Insurance Product Evaluation EC-23, City of New York MEA 223-93-M, and California DSA-PA-019. These documents should also be consulted for additional information concerning the suitability of this product for specific applications.

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TM, SM, and ® denote trademarks or registered trademarks of
James Hardie Technology Limited. ® is a registered trademark
of James Hardie Technology Limited.

Panelfast is a registered trademark of ET&F Fastening Systems, Inc.

Additional Installation Information,
Warranties, and Warnings are available at
www.jameshardie.com



JamesHardie

Starr Construction, Inc.

November 19, 2014

Department of Public Works & Environmental Services
12055 Government Center Parkway, Suite 334
Fairfax, VA 22035

Attn: James Makely

Re: Case # 201307015 SR # 99453.

Dear James,

Thank you for your updated Corrective Work Order letter dated November 14, 2014 but once again, I am rejecting it for all of the reasons that are stated below. Please review the enclosed Hardie Plank Installation Requirements that were in effect when Draper's siding was installed. It was updated in November 2012, after the completion of the Drapers siding installation.

Violation #1

1a. ***Siding installed improperly*** - Not covered in the 2011 Installation Requirements, so all requirements have been met.

1b. ***Minimum clearance not maintained*** - The morning we started this we had a few pieces applied to the gable end above the garage area. I asked Frank Draper's if aesthetically this was ok or would he rather not have the required gap that Hardie Plank wants. I was advised by Frank Draper that he did not want the gap and that the siding looked better without it. This detail is consistent throughout the project where the 2" gap is required. Most customers like the clean look of the siding meeting the roof line and if given a choice, have always chosen not to do the 2" gap. Starr Construction's Contract states that homeowners have this right to choose to deviate from recommended guidelines or manufacturer's installation guidelines. In 14 years of installing Hardie Plank siding, I have never had an issue with damage from this decision, which makes me comfortable offering this choice to my customer. At our meeting, with Frank Draper, on June 25, 2014, I had a witness that confirmed that Frank Draper had made this decision.

1c. ***Butt joints improperly staggered*** - Not covered in the 2011 Installation Requirements, so all requirements have been met.

1d. ***Butt Joints*** - Not covered in the 2011 installation Requirements so all requirements have been met.

1e. ***Missing starter strip*** - The installation of a starter strip over brick is not possible without causing the starter strip to crack. If applied to the sill plate, above the brick area, it

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would have caused the siding to protrude excessively. In this situation, the starter strip would not have been either esthetically pleasing or have functioned properly.

1f. **Edge distance not maintained** - The 2011 *installation Requirements* state that the edge distance should be 3/4" to 1". This was done.

1g. **Edge coating missing** - Field-cuts were caulked against trimmed areas. Factory edges were butted at center joints. 2011 *installation Requirements* state that cut edge treatment is to be either caulked, painted or primed. This was done.

1h. **Improperly installed gable louvers** - It is installed correctly. It's a plastic 2-piece vent. You attach the lower part to the house before siding, apply the siding and caulk to the flanged piece then apply the vented cover to the flange. I tried to explain this at our meeting on June 25, 2014, but I was not heard because Frank Draper would not give anyone else the chance to talk.

1i. **Caulking** - In Starr Constructions Contract it stated that caulking the seams was against manufacture install and would void any warranty with us regarding butt end seams. After a two (2) hour meeting, with both Frank & Evelina Draper, and many attempts to provide an adequate look it was finally decided to caulk the front and garage side of the house which was visible from the street. No other seams are caulked on the house. At our meeting on June 25, 2014, both our witness and Frank Draper confirmed this request. Has Fairfax County decided to ignore the homeowner admitting this in front of three (3) County employees? His exact comment was that he told me to caulk the garage side but not the front. Frank Drapers stated that we added the caulking of butt end seems to the Contract after the fact. We have the original email where he was sent the Contract as a pdf.

1j. **Solvent base liquid** - Not covered in the 2011 *installation Requirements* and was only used on the requested caulked seams to achieve the final look approved by both Frank and Evelina Draper as explained in 1i.

1k. **ColorPlus Touch-up** - Over two years ago there was no damage. Homeowner inspected and confirmed a complete and satisfactory job and a final payment was made. Custom shutters were ordered and installed by an outside company after our completion of the job. No complaint on damaged siding was made within his one year warranty with us.

Violation #2

R703.10.2 Lap siding

Fiber-cement lap siding having a maximum width of 12 inches shall comply with the requirements of ASTM C 1186, Type A, minimum Grade II. Lap siding shall be lapped a minimum of 1 1/4 inches (32 mm) and lap siding not having tongue-and-groove end joints shall have the ends sealed with caulking, installed with an H-section joint cover, located over a strip of flashing or shall be designed to comply with Section R703.1. Lap siding courses may be

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installed with the fastener heads exposed or concealed, according to Table R703.4 or approved manufacturers' installation instructions.

This code does not apply to application of a PVC tongue and grooved exterior wainscoting

R805.1 Ceiling installation

Ceilings shall be installed in accordance with the requirement of interior wall finishes as provided in section R702

Nowhere in R702 is there a section on application of a PVC tongue and grooved exterior wainscoting. The drywall over which the PVC was applied over does meet the requirements.

Violation #3

Starr Construction did not pull a permit on the free installation of a water spigot. The homeowner did not want to incur any additional charges.

Starr Construction did not pull permit for lighting on an existing circuit with an existing light

Starr Construction's Contract states that the homeowner will pay for all fees associated with permitting. At our meeting on June 25, 2014 Frank Draper stated in front of all three (3) Fairfax County employees that he would not pay for permitting.

In conclusion:

This whole issue has been very disheartening for myself and my family. It seems that Fairfax County has taken a stand that the homeowner is always right, no matter what the issue. I'm sure you deal with many, very unfortunate incidents daily, where the contractor is wrong and the homeowner never receives what was contracted. That is not the case with Frank & Evelina Draper, Starr Construction went above and beyond to meet all of the requests during the siding installation.

This has been ongoing for over 2 years after completion of the work, the final payment was received on August 25, 2012 and the customers were satisfied. Starr Construction no longer installs exterior siding or Hardie products. Our meeting at the Drapers was less than productive. Frank Draper has not suffered any damages due to his alleged siding issues. He has admitted to the wanting the caulking at the butt end seams, on the front and side of the house. This alone will void Hardie Planks warranty.

I had mentioned on 2 occasions that you were referring to a revised installation guide that did not pertain to this install. Please review the attached James Hardie Installation Guide. I am still getting sided for items that do not pertain to the correct installation guide. Fairfax County is still citing violations of codes that do pertain to this install.

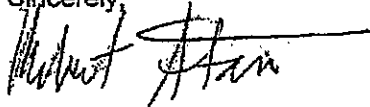
Our meeting on June 25, 2014 with Frank Draper, he pointed out ceiling damage looked like someone had pulled it down to justify his joist spacing. You (James Makely) have original pictures, from your first visit to Draper's, that show there was no damage to the PVC ceiling. Any damage that was there on June 25, 2014 (PVC pulled from ceiling) did not occur within Draper's his one year warranty.

Frank Draper has had, by his own admission, several people looking at his siding and you have in your possession, a picture with a person pulling on the siding at the back of the house. Thi

I have never had a complaint or a dissatisfied customer. Quality work is very important to me and I bend over backwards to give my clients what they want, no matter what the project. Final payment is made from satisfied customers. Frank Draper made his final payment.

Please review the attached, correct Hardie Plank Installation Guide. After a lot of research, I found that Hardie Plank revises their guides every year so they can avoid covering warranty issues. Previous guides are hard to get. This is one reason we will no longer deal with them or their products.

Sincerely,



Robert Starr
2705053948

7337 Wickford Drive, Alexanria, VA 22315 (703)921-0685

4



COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

Terrace R. McAuliffe
Governor

Maurice Jones
Secretary of
Commerce and Trade

Jay W. DeBoer
Director

March 31, 2015

UNITED PARCEL SERVICE

Starr Construction, Inc.
Attn: Robert Starr
7337 Wickford Drive
Alexandria, VA 22315

**Re: File No. 2014-00547
Starr Construction, Inc.**

Dear Mr. Starr:

Enclosed is a copy of the Summary of Informal Fact-Finding Conference ("the Summary") prepared on behalf of the Board for Contractors ("the Board") regarding the Informal Fact-Finding Conference ("IFF") held on February 3, 2015.

The Summary, which includes the recommendation, will be presented to the Board at its next scheduled meeting on April 14, 2015. The meeting will be held at the Department of Professional & Occupational Regulation, 9960 Mayland Drive, Suite 201, Henrico, Virginia 23233, at 9:00 a.m. In the event of Department closings or delayed openings that may postpone or delay any scheduled meetings, you may call (804) 367-8500 to hear information regarding the Department's schedule.

The file has been sent to the Board's Executive Director for preparation and presentation to the Board. The Board has the authority to *accept* or *reject* the Summary. The Board may also amend the Summary and/or render its own decision. This includes adding fines and/or raising the amount of the fine, as well as revoking or suspending a license. The Board may consider any prior disciplinary actions in making its final case decision.

At the Board meeting, participants may respond to the Agency Record and the Summary *only*. Participants may not present any new information or bring any new witnesses. Participants will be permitted to speak for five minutes. This is your final opportunity to make a presentation to the Board before a final decision is made. If you would like to schedule an appointment for the Board meeting or have any questions, please contact the Board at (804) 367-2785.

Persons desiring to participate in the meeting and requiring special accommodations or interpretive services should contact the Department at (804) 367-8500. The Department fully complies with the Americans with Disabilities Act. Please notify the Department of your request for accommodation as soon as possible for consideration of your request.

Sincerely,

Adjudication

Enclosure

Cc: Cynthia Lynn Starr, Participant
7337 Wickford Drive
Alexandria, VA 22315
(by United Parcel Service)

Benjamin D. Starr, Participant
7337 Wickford Drive
Alexandria, VA 22315
(by United Parcel Service)

Daniel R. Starr, Participant
7337 Wickford Drive
Alexandria, VA 22315
(by United Parcel Service)

Ryan C. Kopasz, Participant
15125 Beacon Ridge Drive
Woodbridge, VA 22191
(by United Parcel Service)

Frank Draper, Participant
1173 Old Stable Road
McLean, VA 22102
(by United Parcel Service)

IN THE
COMMONWEALTH OF VIRGINIA
BOARD FOR CONTRACTORS

Re: Starr Construction, Inc.

File Number: 2014-00547
License Number: 2705053948

SUMMARY OF THE INFORMAL FACT-FINDING CONFERENCE

On January 12, 2015, the Notice of Informal Fact-Finding Conference ("Notice") was sent by United Parcel Service ("UPS") to Starr Construction, Inc. ("Starr Construction") at the address of record.

The Notice included the Report of Findings, which contained the facts regarding the regulatory and/or statutory issues in this matter. The Notice was delivered by UPS.

On February 3, 2015, the Board for Contractors ("the Board") convened an Informal Fact-Finding Conference ("IFF") at the Department of Professional and Occupational Regulation ("the Department").

The following individuals participated at the IFF: Robert William Starr ("Starr") on behalf of Starr Construction, Respondent; Cindy Starr, Daniel Starr ("D. Starr"), Benjamin Starr ("B. Starr"), and Ryan Kopasz ("Kopasz"), Witnesses, and Frank Draper ("Draper"), Witness by telephone.

Joseph Haughwout, Jr. and Linda Rhodenhiser appeared on behalf of the Department.

Troy Smith, Jr. presided on behalf of the Board.

RECOMMENDATION

Based upon the evidence in the record, the following is recommended regarding the Counts as outlined in the Report of Findings:

On May 30, 2012, Draper entered into a contract ("Contract") with Starr Construction for \$44,938.02 to install new Anderson Windows and hang new HardiePlank lap siding at the subject property located in Great Falls, Virginia.

On July 16, 2012, Starr Construction and Draper entered into a Time and Material Agreement ("T&M Agreement") for work to be billed at \$170.00 per hour.

On August 4, 2012, Starr Construction and Draper agreed to a written Change Order for Starr Construction to install PVC Bead wainscoting on the front porch ceiling for \$4,500.00. The Change Order also included installation of four recessed lights at \$150.00 per light and one fan at \$150.00.

Count 1: Board Regulation

The Contract indicated that Starr Construction would install the siding and windows according to vendor guidelines and applicable building codes.

During the IFF, Starr explained that Starr Construction had performed work on a series of projects for the Drapers. Prior to the siding and windows project, Starr Construction had performed work on the second floor of the Drapers' home. Starr indicated that he had developed a good working relationship with the Drapers, and that the Drapers would frequently ask for changes or additional work. In order to keep the project moving, Starr entered into the T&M Agreement with the Drapers, rather than writing change orders for every change to the work. Starr said that changes which did not involve an additional cost were verbally agreed to, and that no change orders were used.

Starr Construction commenced work in July 2012 and the job was completed August 25, 2012. Draper paid Starr Construction in full.

During the course of the siding installation, deviations from the manufacturer's installation requirements were made. These included not providing for minimum clearances between the siding and the roof, porch, patio, and deck; and the use of caulking to fill seams in the siding. Starr Construction contends that any work which deviated from the manufacturer's specifications was a result of Draper's request and that Starr advised Draper of the manufacturer's specifications.

At the IFF, Starr stated that caulking was used to fill in the seams on the siding because the Drapers did not want to see the spaces between the seams. Starr said he advised Draper that caulking the siding was not part of HardiePlank guidelines. Further, Starr stated that a two and a half hour discussion, with Draper, took place in the driveway at the subject property to determine which type of caulk bead the Drapers preferred. During this discussion Draper was shown several methods of applying caulk. At the end of the discussion, Draper told Starr to caulk the siding on the side and front of the house because they were visible from the street. D. Starr, B. Starr, and Kopasz, who worked on the project for Starr Construction, verified Starr's account of the conversation with Draper.

Also, Draper was advised of the recommended two-inch gap at the roof line that allows the flashing to be seen. Starr said that Draper did not want to see the flashing, and so, Starr took steps to cover the gap. Starr indicated that at one point he installed the siding per Draper's request but then Draper did not like it. As a result, Starr Construction removed the siding and reinstalled it without the clearances.

Draper acknowledged that he asked Starr Construction to use caulking for the butt joints because he and his wife did not like the appearance of the siding with the butt joints showing. However, after Starr Construction began caulking the joints, Draper asked Starr Construction to stop because of discoloration caused by a solvent that Starr Construction was using to apply the caulking. Draper denied that he participated in a two and half hour discussion in the driveway at the subject property regarding caulking. In addition, Draper denied that he agreed to any other deviations from the manufacturer's installation guidelines.

On or about May 15, 2013, an Installation Specialist with James Hardie Building Products, Inc. performed an inspection of the subject property at Draper's request. In a James Hardie Corrective Action Plan ("Action Plan"), the Installation Specialist outlined observations where the siding had not been installed according to the manufacturer's guidelines. These included the lack of minimum clearances, failure to have all trim flashed, and improper staggering of butt joints.¹

With exception to the lack of minimum clearances and the use of caulking, Starr Construction contends that the siding was otherwise properly installed according to the manufacturer's specifications in effect at the time of installation. During the IFF, Cindy Starr stated that the specifications cited in the Action Plan regarding the staggering of butt joints were developed after the installation. The specifications supplied with the materials used at the subject property were dated August 2011 and did not contain information about butt joint staggering.²

During the IFF, I had an opportunity to observe Starr, including his appearance and demeanor. I found Starr's testimony believable. Starr came across as quite knowledgeable about the HardiePlank product. It seems that Starr Construction deviated from some of the siding manufacturer's installation instructions in order to satisfy the customer's concerns about the aesthetic appearance of the siding. Although these changes were done at no additional charge to the customer, Starr Construction should have obtained a written change order to memorialize these modifications to the Contract. Starr Construction's failure to do so is a violation of Board Regulation 18 VAC 50-22-260.B.31.

Change orders are important because they detail any deviations from the original contract, provide evidence of the parties' agreement, and clarify the nature/cost of the change. If the project will be altered in any way, a signed, written change order should be executed to document such change. As such, confusion and disagreements are less

¹ On May 7, 2014, the Fairfax County Department of Public Works and Environmental Services ("Fairfax County building department") issued a Corrective Work Order to Starr Construction, based, in part, on Starr Construction's alleged failure to install the siding according to the manufacturer's guidelines. On November 25, 2014, the Fairfax County building department issued a Notice of Violation ("NOV") to Starr Construction. At the time of the IFF, Starr Construction was appealing the NOV.

² HardiePlank appears to update specifications, from year to year, for installation of lap siding.

likely to arise if contractors execute signed, written change orders. Therefore, I recommend a monetary penalty of \$200.00 and remedial education be imposed.

The Board's contracting license class (remedial education) must be successfully completed by a member of Responsible Management within ninety (90) days of the effective date of the order.

Count 2: Board Regulation

During the project, Starr Construction installed a hose bib, relocated an existing soffit light, added an additional light in garage, added one switch with existing soffit garage light, added one electrical GFI outlet below back deck window, installed two outlets to the left of the front door and an additional owner provided soffit light. This work was performed without the required plumbing and electrical permits having been obtained.

On May 17, 2014, the Fairfax County building department issued a Corrective Work Order to Starr Construction based, in part, on the failure to obtain required electrical and plumbing permits for the installation of exterior electrical fixtures and plug outlets, and for the installation of a hose bib. On November 25, 2014, the county issued an NOV to Starr Construction, as the permits still had not been obtained.

During the IFF, Starr conceded that the electrical and plumbing permits were not obtained. It was his understanding that Draper did not wish to incur the costs associated with obtaining permits. Draper stated that he did not believe he should be responsible for paying for permits because of the money he has already paid for work he is not entirely satisfied with. Draper does not fault the electrical or plumbing work, but he does believe he should not have to pay for permits.

Starr Construction's failure to obtain the building permit is a violation of the Uniform Statewide Building Code ("USBC"). In certain circumstances, the USBC requires building permits be obtained and inspections be performed. This provides protection and assurance that the work performed by the contractors meets the minimum requirements for safety and will not be harmful to citizens. By not obtaining required permits, there is no assurance that the work performed by the contractor is in compliance with the USBC. As a licensee, it is Starr Construction's responsibility to ensure that appropriate permits are obtained prior to work being performed.

Starr Construction's actions constitute misconduct, in violation of Board Regulation 18 VAC 50-22-260.B.6. Therefore, I recommend a monetary penalty of \$400.00 and remedial education be imposed.

The Board's contracting license class (remedial education) must be successfully completed by a member of Responsible Management within ninety (90) days of the effective date of the order.

By:


Troy Smith, Jr.
Presiding Board Member

Board for Contractors

Date:

3-30-15

Fairfax County, Virginia, Code of Ordinances >> - Fairfax County Code >> CHAPTER 61. - Building Provisions. >> ARTICLE 3. Home Improvement Code—General. >>

ARTICLE 3. Home Improvement Code—General.

Section 61-3-1. Short title.

Section 61-3-2. Contracts—Generally.

Section 61-3-3. Contents of contracts.

Section 61-3-4. Act of agent considered act of contractor.

Section 61-3-5. Responsibility of contractor to acquire and comply with required permits.

Section 61-3-6. Enforcement of Article.

Section 61-3-7. Inapplicability of Article to certain persons.

Section 61-3-8. Licensee not exempt from compliance with Code.

Section 61-3-9. License required.

Section 61-3-10. Prerequisites for contractor license issuance or renewal.

Sec. 61-3-11. Evidence of fiscal responsibility and reliability.

Section 61-3-12. Bond.

Section 61-3-13. Issuance to certain persons prohibited.

Section 61-3-14. License fee; expiration; renewal.

Section 61-3-15. Denial, suspension or revocation.

Section 61-3-16. Notice of denial, suspension or revocation; contents; service.

Section 61-3-1. Short title.

This Article shall be known and may be cited as the "Home Improvement Code." (9-84-61; 13-95-61; 45-03-61.)

Section 61-3-2. Contracts—Generally.

All home improvement contracts shall be in writing, shall be executed in duplicate with 1 copy to the owner of the property and 1 copy to the contractor, and shall fully and completely set forth the agreement of the parties. The demand for or the receipt of any payments prior to the execution of such a contract with all blanks filled in is hereby specifically prohibited. A copy of the contract form customarily used by the contractor for the performance of home improvement work shall be filed with the application for a home improvement contractor's license required by this Chapter. (45-03-61.)

Section 61-3-3. Contents of contracts.

All contracts for home improvement work shall include, but not be limited to the following:

- (1) A date on which work is to begin and the estimated completion date.
- (2) A statement of the total cost of the contract and the amounts and schedule for progress payments including a specific statement on the amount of the down payment.
- (3) A listing of specified materials and work to be performed which is specifically requested by the consumer.
- (4) A "plain-language" exculpatory clause concerning events beyond the control of the contractor and a statement explaining that delays caused by such events do not

constitute abandonment and are not included in calculating time frames for payment or performance.

- (5) A statement of assurance that the contractor will comply with all state and local requirements for building permits, inspections, and zoning.
- (6) Disclosure of the cancellation rights of the parties.
- (7) For contracts resulting from door to door solicitations, a signed acknowledgement by the consumer that he has been provided with and has read the Department of Professional and Occupational Regulation's statement of protections available to him through the Board for Contractors.
- (8) The contractor's name, address, office telephone number, license/certificate number, expiration date, class of license/certificate and license classifications or specialty services.
- (9) Statement providing that any modification to the contract, which changes the cost, materials, work to be performed, or estimated completion date must be in writing and signed by all parties. (9-84-61; 13-95-61; 45-03-61.)

Section 61-3-4. Act of agent considered act of contractor.

For the purpose of this Article, the act or omission of any agent, while acting on behalf of the contractor, may be considered the act of the contractor. (9-84-61; 13-95-61; 45-03-61.)

Section 61-3-5. Responsibility of contractor to acquire and comply with required permits.

Contractors performing home improvement work shall be responsible for ensuring that the required permits have been obtained in compliance with the VUSBC, that the laws of the County and State are complied with and that all work is performed in accordance with the conditions and terms of such permits. (9-84-61; 13-95-61; 16-98-61; 45-03-61.)

Section 61-3-6. Enforcement of Article.

The Building Official is responsible for the enforcement of this Article. He is authorized to require of any applicant for a license required by this Chapter sufficient information to determine the propriety of issuing such license and is further authorized to require of any licensee sufficient information to determine the propriety of authorizing the continuance and renewal of his license. The Building Official is also responsible for the investigation and prosecution of alleged violations of this Article. Failure of an applicant or licensee to make available such information as the Building Official is authorized to request and failure to cooperate with him in the investigation of violations of this Article shall be grounds for denial, suspension or revocation of a license. (9-84-61; 13-95-61; 45-03-61.)

Section 61-3-7. Inapplicability of Article to certain persons.

This Article shall not apply to any person performing home improvement work on a residential property of which he is the owner or to Class A contractors or Class B contractors or to any public utility, its agent, employees or subcontractors. (9-84-61; 13-95-61; 45-03-61.)

Section 61-3-8. Licensee not exempt from compliance with Code.

Nothing contained in this Article shall excuse any licensee from compliance with all other applicable provisions of this Code, and the Virginia Uniform Statewide Building Code. (9-84-61; 13-95-61; 45-03-61.)



IMPORTANT: FAILURE TO INSTALL THIS PRODUCT IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND WITH JAMES HARDIE WRITTEN APPLICATION INSTRUCTIONS MAY LEAD TO PERSONAL INJURY, AFFECT PERFORMANCE, VIOLATE LOCAL BUILDING CODES, AND VOID THE PRODUCT-ONLY WARRANTY.

HARDIEWRAP™ WEATHER BARRIER PRODUCT DESCRIPTION

HardieWrap™ weather barrier is a non-woven, non-perforated polyolefin water-resistive barrier, as per AC308, manufactured by James Hardie Building Products. HardieWrap weather barrier provides a balance of water resistance and breathability to protect homes from the elements of weather that can get behind the exterior wall cladding. HardieWrap™ Pro Flashing and HardieWrap™ Seam Tape are recommended in conjunction with HardieWrap weather barrier to complete the HardieWrap weather barrier solution.*

water-resistive barrier is required in accordance with local building code requirements. The water-resistive barrier must be installed with penetration and junction flashing, in strict accordance with local building code requirements.

STORAGE

HardieWrap weather barrier should be stored in a covered area. Do not store in direct sunlight and do not expose to oiling site chemicals.

GENERAL REQUIREMENT—DESIGN†

The installation guidelines herein are informational in nature only and may not be appropriate for use in all applications. It is the sole responsibility of the architect or specifier to identify moisture-related risks associated with any particular building design, and to make any appropriate adjustments or modifications to the installation guidelines herein. Wall construction design must effectively manage moisture, considering both the interior and exterior environment of the building, particularly in buildings that have higher risks of wind-driven rain penetration and conditioned spaces. HardieWrap weather barrier may be installed on vertical wall applications only. James Hardie requires that HardieWrap weather barrier be covered within 180 days of installation. Wall openings, penetrations, junctions, connections, window sills, headers and jambs must incorporate appropriately installed HardieWrap Pro Flashing and HardieWrap Flex Flashing, or other flashing or flashing details, as recommended by the architect or specifier.

INSTALLATION OF HARDIEWRAP™ WEATHER BARRIER

HardieWrap weather barrier should be installed before window and door installation. It is not recommended to install HardieWrap weather barrier on saturated sheathing. HardieWrap weather barrier can become slippery and should not be used in any application where it may be walked on.

Begin by affixing weather barrier, extending at least 6" around a building corner (fig. 1). Unroll horizontally (with print side facing out) around the building, covering each window and door opening. Fasten to studs or nailable sheathing with galvanized construction-grade staples a maximum of 18" in the vertical and horizontal directions.

Each weather barrier so that it is taut and flat. The vertical overlap must be a minimum of 6" and the vertical seam must be taped. HardieWrap Seam Tape is strongly recommended. Do not tape or interfere with the use of weep holes or similar drainage details.

Ensure that the bottom edge of the weather barrier extends over the sill plate foundation interface by at least 1".

Wrap upper layers of weather barrier in shingle lap fashion) by a minimum of 6" below the horizontal edge, and tape the horizontal seam (fig. 1A).

figure 1A

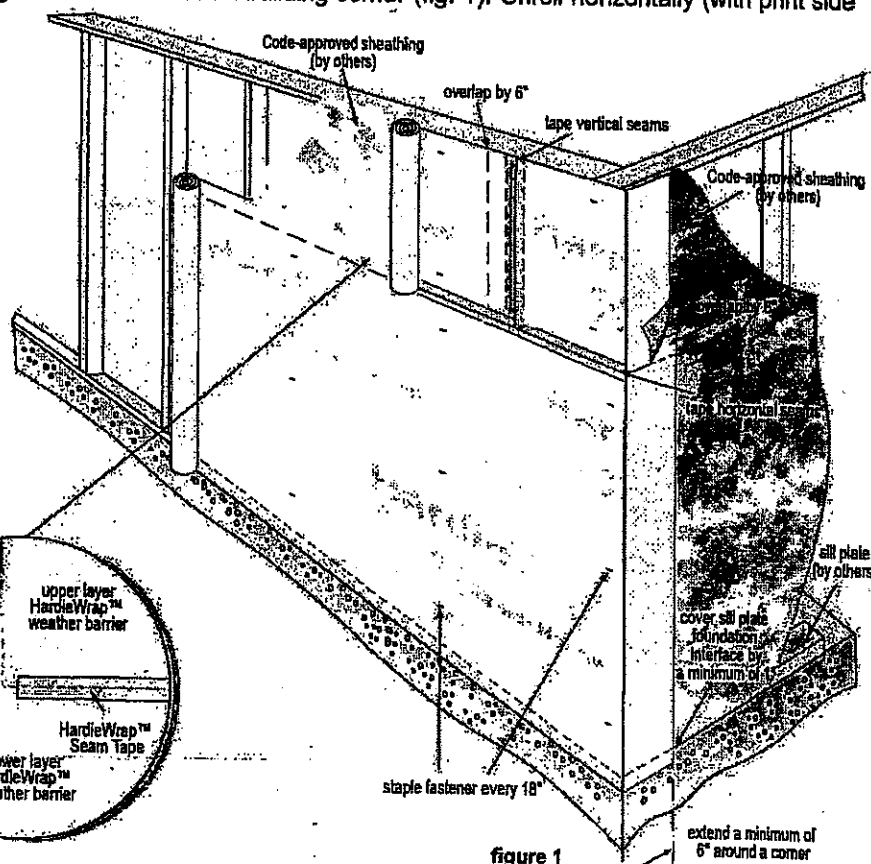
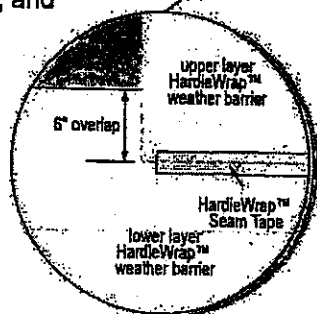


figure 1

HardieWrap weather barrier solution is based on methods of installation from the AAMA and ASTM E2112. HardieWrap weather barrier helps to reduce the intrusion of moisture or air, but is not designed to prevent the intrusion of all moisture or air.

HardieWrap weather barrier is limited to buildings of Type V-B (IBC) construction (Type 5 (BRC), Type VI (SPC), Type IV (URC) and others).

STALLATION OF HARDIEWRAP™ WEATHER BARRIER (CONT.)

roof-to-wall intersection (or wall-to-deck), affix wrap to the wall such that it overlaps any step flashing already on the wall by at least 2" (fig. 2).

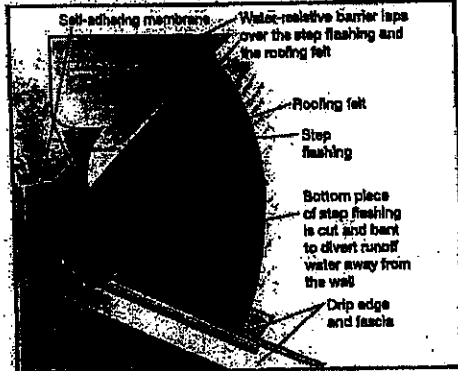


figure 2

RO FLASHING INSTALLATION

o Flashing is typically utilized at windows, doors, junctions and penetrations, and must be installed in conjunction with HardieWrap™ weather barrier. Consult with the architect or specifier regarding the type and method of flashing to be utilized.

Check your local Building Code for construction requirements and follow the manufacturer's recommended installation instructions; or utilize standard practices for the installation of exterior windows and doors as referenced in ASTM 2112-01 or AAMA 2400-2 (CAWM 400-95). For specific flashing details and options, reference James Hardie's HardieWrap Pro Flashing Guide.

WINDOWS AND OTHER PENETRATIONS

TYPICAL WINDOW INSTALLATION METHODS

HardieWrap weather barrier is not designed nor guaranteed to prevent moisture or air from intruding behind the weather barrier. Ensure that appropriate flashing has previously been installed around all windows and door openings.

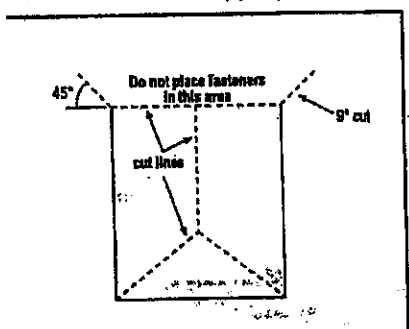


figure 3
Step 1: Use the inverted "Y" cut at rough window and door openings. Do not place fasteners within 9" of the rough opening, door or window heads. This area should not be fastened to allow for proper flashing installation. At the top corners of the rough opening, cut the weather barrier at 45° to extend 9" past the joint (fig. 3).

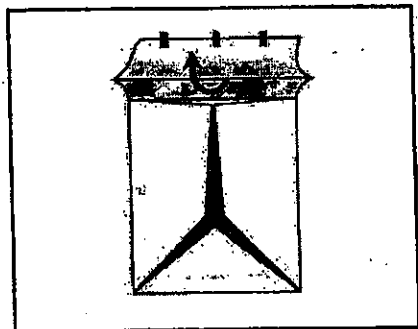


figure 4
Step 2: Fold the top flap up and out of the way and fasten temporarily (fig. 4).

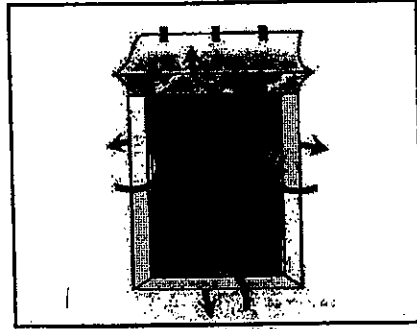


figure 5
Step 3: Fold the remaining three flaps in through the opening, fastening them inside with staples (fig. 5).

TYPICAL PENETRATION FLASHING METHODS

For rough electrical or plumbing penetrations, seal with flashing. Install the top piece over the bottom piece (figs. 7 and 8). HardieWrap Pro Flashing can be used for this application.

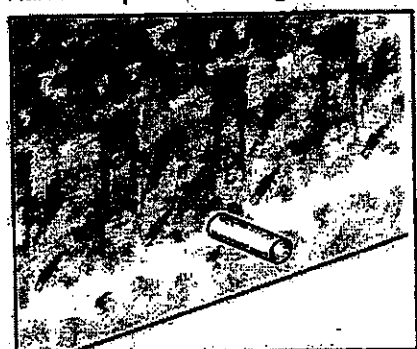


figure 6
The penetration detailed in figures 7 and 8 as found in the EEBA Water Management Guide.

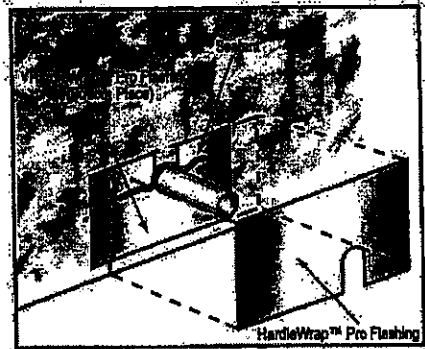


figure 7

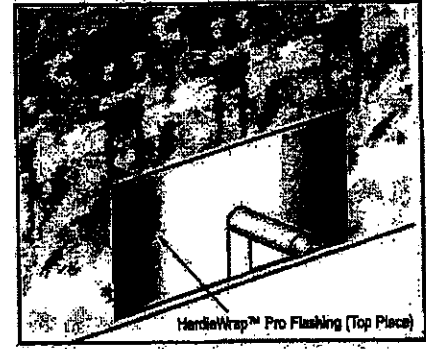


figure 8

FASTENERS

Staples are the preferred and recommended fastening method. Fasten HardieWrap™ weather barrier in such a way that ensures the wrap is secured to the wall with staples a maximum of 18" O.C. (on center) in the vertical and horizontal direction. Staples should be construction-grade and must be galvanized.

When installing over insulation boards, use galvanized roofing nails long enough to penetrate insulation and framing studs or sheathing.

Consult with the architect or specifier regarding the need to seal any punctures caused by staples, nails or other items.

REPAIRS

For minor punctures or tears less than 3", cover and completely seal with HardieWrap Seam Tape (fig. 9). For larger holes greater than 3", use slit-flashing technique. Slit-flashing requires making a horizontal slit above the damaged area and placing a cut piece of HardieWrap weather barrier into the slit, covering the damaged area. Tape the perimeter of the patched area (fig. 10).

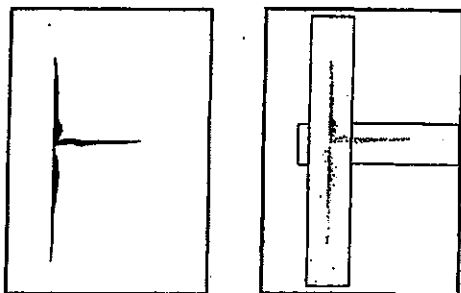


figure 9

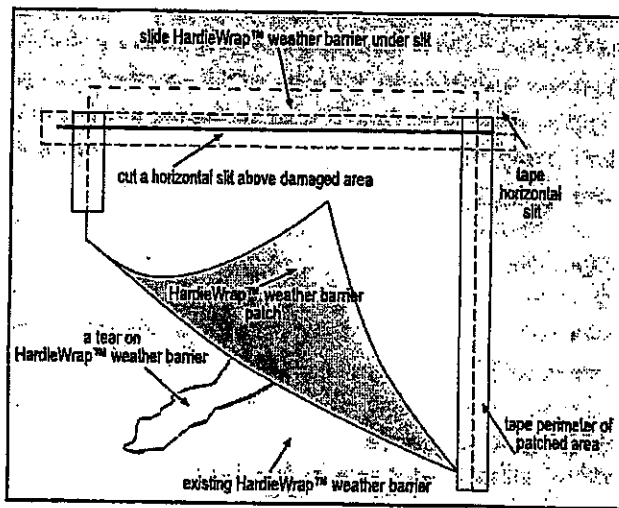


figure 10

GENERAL REQUIREMENT CHECKLIST

- ☒ Do not store HardieWrap weather barrier in direct sunlight.
- ☒ It is recommended that weather barrier be installed over dry framing and sheathing.
- ☒ Tape all vertical and horizontal seams.
- ☒ Overlap subsequent weather barrier layers in shingle lap fashion with seams overlapping by at least 6".
- ☒ Be sure that all penetrations are addressed.
- ☒ Fasten with construction-grade galvanized staples a maximum of 18" in the vertical and horizontal directions.
- ☒ Repair punctures or tears, by the recommended practices.
- ☒ Do not use HardieWrap weather barrier in applications where it may be walked on.
- ☒ James Hardie requires that HardieWrap weather barrier be covered within 180 days of installation.

**HARDIEWRAP™ PRO FLASHING GUIDE****HARDIEWRAP™ PRO FLASHING PRODUCT DESCRIPTION**

HardieWrap™ Pro Flashing and HardieWrap™ Flex Flashing are high-performance, self-adhering, self-sealing, waterproof material on tear-resistant top sheets that are applied around windows and doors to manage water and air intrusion. HardieWrap™ Pro Flashing has a release liner for peel-and-stick installation and has no asphalt, VOCs or solvents. HardieWrap™ Flex Flashing is designed to easily stretch and seal around doors and windows, as well as custom shapes to protect against water intrusion, and is supplied in a convenient dispenser box. Together with HardieWrap™ weather barrier and HardieWrap™ Seam Tape, HardieWrap™ Pro Flashing and HardieWrap™ Flex Flashing provide the James Hardie™ weather barrier solution to manage water drainage, and prevent water damage and energy loss.

STORAGE

For optimal performance, store in original sealed packaging at temperatures of 5° - 32°C (41° - 90°F) while at moisture-free conditions. James Hardie requires that HardieWrap™ Pro Flashing and HardieWrap™ Flex Flashing be installed within 180 days of installation.

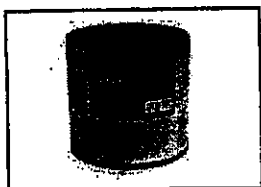
IMPORTANT TO NOTE

This recommendation refers to the most commonly used types of windows (surface-mounted). For other types of frames, special attention should be paid to the window manufacturer's instructions.

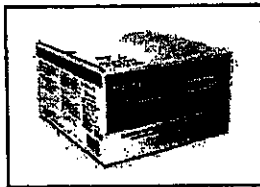
Check your local building code for construction requirements and follow the manufacturer's recommended installation instructions; or utilize standard practices for the installation of exterior windows and doors as referenced in ASTM 112-01 or AAMA 2400-2 (CAWM 400-95). Consult with the architect or specifier regarding the methods to be utilized.

GENERAL REQUIREMENT

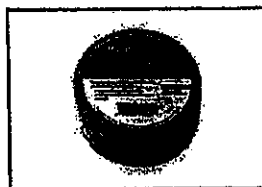
The installation guidelines herein are informational in nature only and may not be appropriate for use in all applications. It is the sole responsibility of the architect or specifier to identify moisture-related risks associated with any particular building design, and to make any appropriate adjustments or modifications to the installation guidelines herein. Wall construction design must effectively manage moisture, considering both the interior and exterior environment of the building, particularly in buildings that have a higher risk of wind-driven rain penetration and conditioned spaces. Wall openings, penetrations, junctions, connections, window sills, headers and jambs must incorporate appropriately installed HardieWrap™ Pro Flashing and HardieWrap™ Flex Flashing, or other flashing or flashing details, as recommended by the manufacturer, architect or specifier.



HardieWrap™ Pro Flashing



HardieWrap™ Flex Flashing



HardieWrap™ Seam Tape

HARDIEWRAP™ FLEX FLASHING STRETCHABLE SILL FLASHING

Prepare sill flashing by cutting HardieWrap™ Flex Flashing at least 12" longer than the width of the rough opening. Install sill flashing by removing the release paper, centering sill flashing on sill framing stud and adhering into rough opening. The back edge of HardieWrap™ Flex Flashing should extend to the inside edge of sill framing stud and at least 6" up each jamb framing stud. (Note: Sill flashing should not wrap onto the inside of wall.) **DO NOT STRETCH MATERIAL ALONG THE SILL OF JAMB.** HardieWrap™ Flex Flashing should be applied over the water-resistive barrier after it has been cut and set into and around the window rough opening.

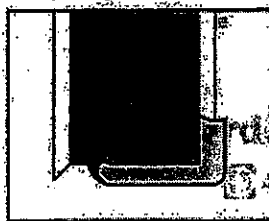


figure 1

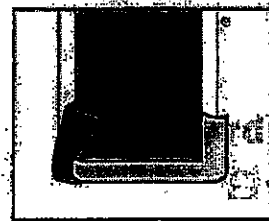


figure 2

Note: If a water-resistive barrier is to be applied after the window and flashing have already been installed, be sure not to fasten the lower edge of the flashing so that the water-resistive barrier may be slipped underneath the flashing in weather-board or shingle-lap (top layer overlapping bottom layer) fashion.

WINDOW INSTALLATION

Before installing the window, (a) apply a continuous bead of sealant to the backside (interior) of the window's mounting flange on the outer edge; or (b) apply a continuous seal to the rough opening to ensure contact with the backside (interior) of the window's mounting flange (do not caulk along bottom). Install window according to the manufacturer's installation procedures.

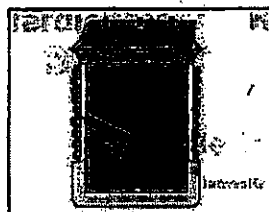


figure 3

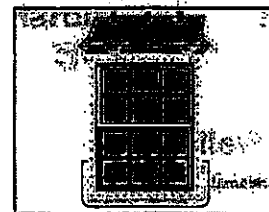


figure 4

SIDE JAMB FLASHING

Apply HardieWrap™ Pro Flashing along the vertical sides of the opening. Flash over the side window mounting flanges. Extend the flashing by a minimum of 3" beyond the sill flashing (HardieWrap™ Flex Flashing) already in place and extend the flashing to a minimum of 3" beyond the top of the opening, so that it projects beyond the head flashing that is to be applied later.

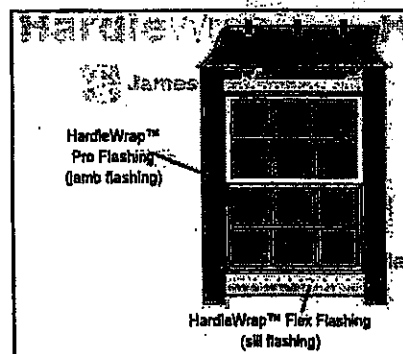


figure 5

HEAD FLASHING

Affix HardieWrap™ Pro Flashing over the window's mounting flange along the header opening. Be sure to extend the flashing beyond each jamb flashing by 3". Secure flashing in place by applying pressure. Detach weather barrier flap (top) and apply over head flashing as shown. Tape all seams and joints.

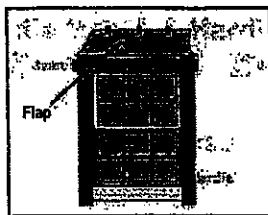


figure 6

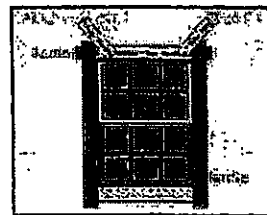


figure 7

CIRCULAR WINDOWS

Follow previous instructions for proper installation prior to head flashing installation. Install circular top windows according to window manufacturer's installation guidelines, and then follow instructions as illustrated in figures 8–11 to complete the process.

Measure the circular portion of the window and add 12" to this number. Cut HardieWrap™ Flex Flashing to this length for the head flashing. Remove approximately 20" of release paper and position HardieWrap™ Flex Flashing tightly along the first edge around window. Press firmly into place (figs. 8 and 9). Continue moving release paper and conform HardieWrap™ Flex Flashing to entire circular portion of window (fig. 10). Use HardieWrap™ Seam Tape or mechanical fasteners (i.e., nails, staples or screws) to temporarily hold top edge of head flashing to wall. HardieWrap™ Flex Flashing adhesive bond will strengthen over time. Both ends of head flashing should overlap all flashings by at least 6".

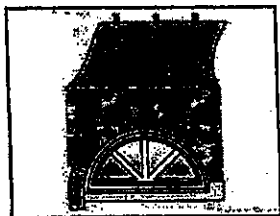


figure 8

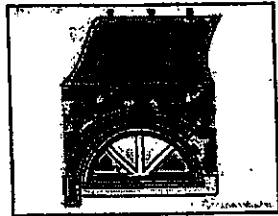


figure 9



figure 10

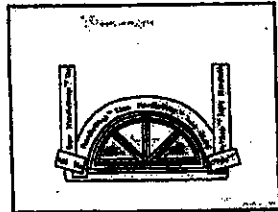


figure 11

IMPORTANT TO NOTE

This recommendation refers to the most commonly used types of windows (surface-mounted). For other types of frames, special attention should be paid to window manufacturer's instructions.

A spray adhesive, such as Nashua 357, is recommended when HardieWrap™ Flex Flashing is applied directly to Oriented Strand Board (OSB) or other surfaces where additional adhesion is needed or required.

HardieTrim

HardieTrim® Boards Product Description

HardieTrim® boards come finished with either the PrimePlus® factory primer and sealer or with ColorPlus® Technology. The ColorPlus® coating is a factory-applied, oven-baked finish available on a variety of James Hardie® siding and trim products. See your local dealer for details and availability of products, colors, and accessories.

HARDIETRIM® 5/4, 4/4 BOARDS

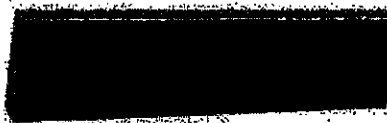
HardieTrim® 5/4, 4/4 board is a decorative non-load bearing trim product. HardieTrim 5/4 board is 1-in. thick, HardieTrim 4/4 board is 3/4 in. thick, and both can be purchased in 10-ft. and 12-ft. lengths, based on local availability. In addition to frieze, rake, window, door, and corner details, HardieTrim 5/4, 4/4 boards may be used to construct light blocks, column wraps and decorative scroll work. Available in commonly-used nominal widths from 4 in. to 12 in.

HARDIETRIM® BATTEN BOARDS

HardieTrim® Batten Boards are a decorative non-load bearing trim product. HardieTrim® Batten Boards are 3/4" thick, 2 1/2" wide, and come on 12' lengths. See your local dealer for details and availability of product colors and accessories.



HardieTrim 5/4, 4/4 board - Smooth



HardieTrim Batten board -
Rustic and Smooth (not shown)

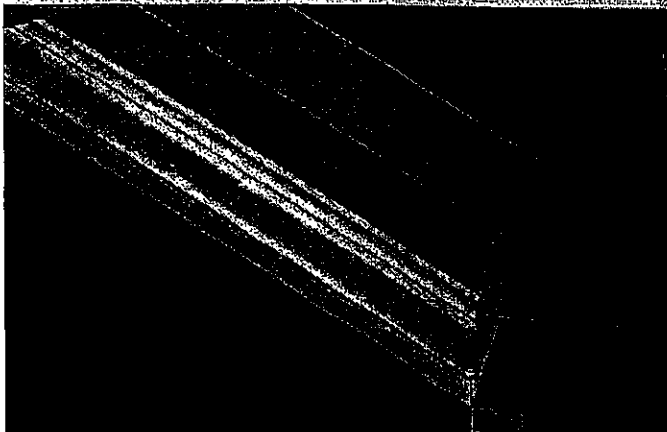


HardiePanel vertical siding with
HardieTrim Batten board for the
Board & Batten look.

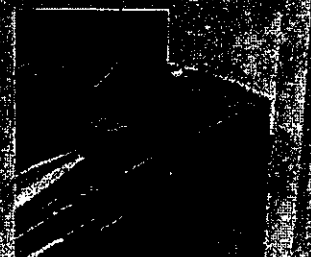
WARNING

DO NOT caulk nail heads when using ColorPlus products.
Refer to the ColorPlus touch-up section.

A Complete James Hardie Exterior -
Close-up on trim products.



ColorPlus™ HardieTrim 5/4, 4/4 boards with ColorPlus Technology is shipped with the protective laminate slip sheet. James Hardie recommends keeping the protective sheet in place during cutting and fastening to reduce damage to the boards. Remove the protective sheet only after installing the boards and filling the nail holes with a colored touch-up pen.



Product Information

Safety

Cutting and Fastening Requirements

Fastener Requirements

Maintenance

Weather Barriers

Boards/Battens

Paints

Leak Sealing

Sealing/Jointing

Vertical Siding

Trim/Batten

Glossary

2280 Report

Installation of HardieTrim® 5/4, 4/4 & NT3™ Back Grooved Boards

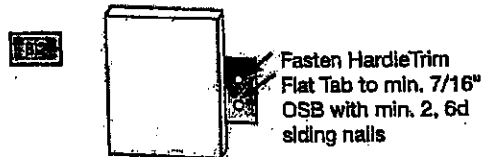
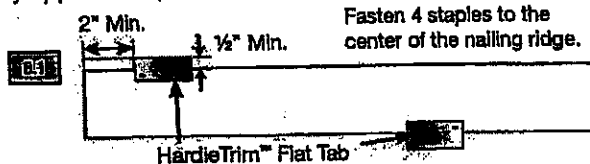
CONCEALED FASTENING TABS

For Corners, Band Boards, Windows, and Door Applications: HardieTrim® boards can be installed with Flat Tabs (JH sku no. 280154) and Corner Tabs (JH sku no. 280155) which provide concealed fastening. Only Flat and Corner Tabs can be used with HardieTrim® boards to create a concealed fastening. Additional framing may be required to ensure the Flat and Corner Tabs are fastened properly to the structure. Special attention should be paid to the framing when using a sheathing that does not have fastener holding equivalent to OSB or Plywood sheathing.

Step 1: Attach Flat Tabs to the back side of the trim with 4 18 ga. 1/2" L x 1/4" W narrow crown corrosion resistant staples, equally spaced in one row, positioned no closer than 1/2" from trim edges, using a pneumatic staple gun. (Figure 8.1)

Step 2: For wood frame construction, attach the trim to the building using 2, 6d siding nails fastened through the Flat Tabs. ET&F or equivalent fasteners may be used to attach the Flat Tabs to steel frame construction. (Figures 8.2)

Fastener spacing will vary based on application. Refer to specific sections in these instructions for required fastener spacing by application (window, band board, etc.). (Figures 8.13)



Installation of HardieTrim tabs in Coastal Regions:

James Hardie requires that stainless steel staples & fasteners be used when installing HardieTrim™ Tabs in coastal regions.

Installation of HardieTrim Tabs over Pressure Treated Lumber:

HardieTrim™ tabs shall not come in direct contact with ACQ or CA preservative-treated wood. Refer to the General Fastening section of this document for further information.

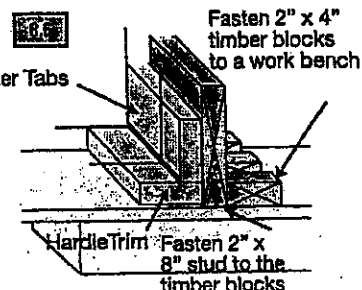
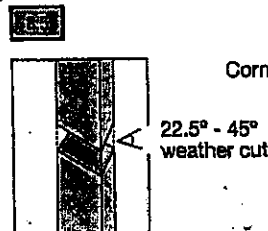
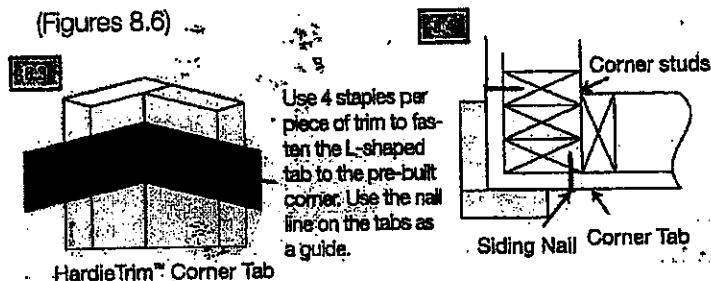
HardieTrim® NT3™ boards with ColorPlus® Technology:

Remove the laminate sheet as soon as possible after attaching the trim to the building.

INSTALLING CORNERS

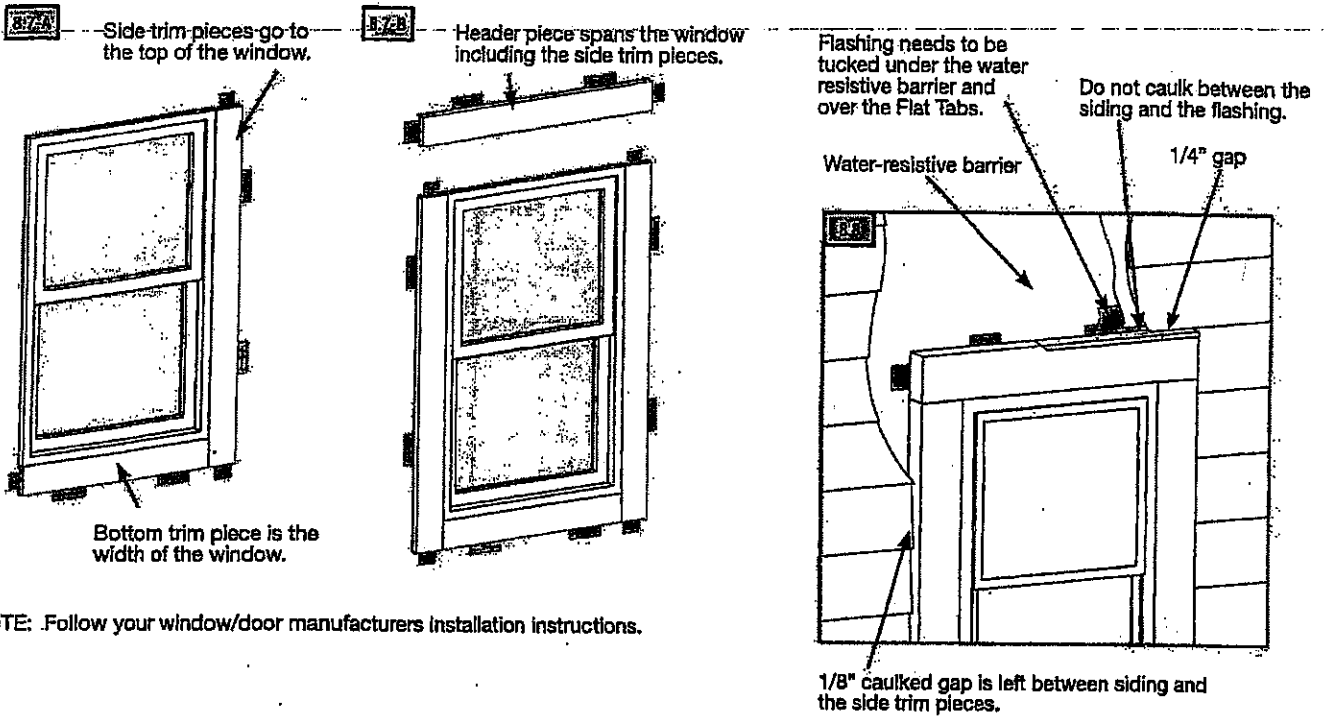
HardieTrim® boards are installed around corners by pre-building the corner off the wall with the Corner Tabs (JH sku no. 280155).

- Attach Corner Tabs to the back side of the trim with 8 18 ga. 1/2" L x 1/4" W narrow crown corrosion resistant staples using a pneumatic staple gun. Ensure the Corner Tabs are fastened tight and straight to the trim boards. (Figures 8.3)
- For wood frame construction, attach the trim to the building with 2, 6d siding nails fastened through the Corner Tabs. ET&F or equivalent fasteners may be used to attach the Corner Tabs to steel frame construction. (Figures 8.4)
- Attach a Corner Tab 1" from each edge and every 20" o.c.
- TIP: Creating a jig for the work station is recommended to ensure the corners are fastened securely and straight. (Figures 8.6)



TRIM APPLICATION FOR WINDOWS, DOORS & OTHER OPENINGS

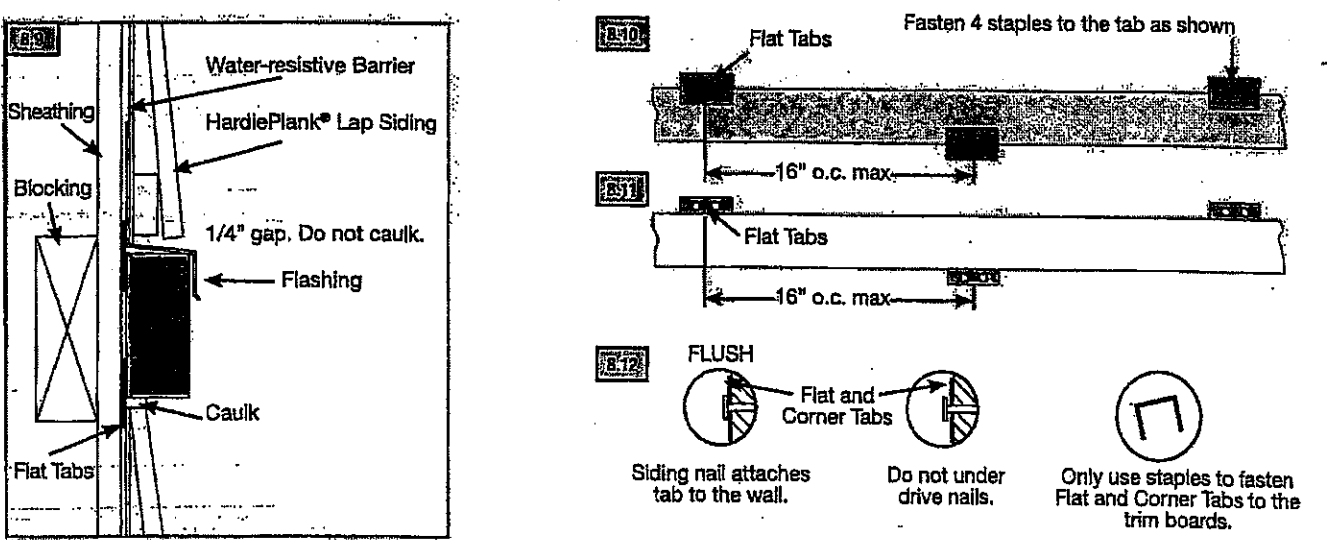
Trim the opening prior to the installation of the siding (Figure 8.7). Place a Flat Tab at the end of each trim board and one tab every 16" OC. Attach the trim boards and Flat Tabs around the opening as shown in Figures 8.7 and 8.8.



OTE: Follow your window/door manufacturers installation instructions.

BAND BOARD

A flashing is required over the trim and Flat Tabs. (Figure 8.9) Terminate ends of the Band Board into Trim or Siding or miter cut the edges of the trim at the corners of the building. Place a Flat Tab at the end of each trim board and one tab every stud at a maximum of 16" o.c. The Flat Tabs should be attached to the trim in an alternating pattern to the top and bottom of the band board (Figures 8.10 and 8.11).



Installation of HardieTrim® 5/4, 4/4 & NT3™ Back Grooved Boards

FASTENER TABLE

Application	Framing Material Tab is nailed into	Fastener (tab to framing)	Fastener (tab to Hardietrim)	Max Tab Spacing (inches on center)
Flat Tab	Wood Stud (minimum G=0.42)	One 6d corrosion resistant siding nail installed through center of flange into framing	Four 18 ga. X 1/2" long X 1/4" wide corrosion resistant crown staples, equally spaced in one row	16
	Minimum APA rated 7/16" OSB	Two 4d ring shank corrosion resistant siding nails equally spaced installed through flange into framing		
	Minimum 20 gauge steel	One No. 8 X 1" long X 0.323" head diameter screw (corrosion resistant) installed through flange into framing		
Corner Tab	Wood Stud (minimum G=0.42)	On each flange, install one 6d corrosion resistant siding nail through flange into framing	For each piece of trim, install Four 18 ga. X 1/2" long X 1/4" wide corrosion resistant crown staples, equally space in two rows	20
	Minimum APA rated 7/16" OSB	On each flange, install two 4d ring shank corrosion resistant siding nails through flange into framing		
	Minimum 20 gauge steel	On each flange, install one No. 8 X 1" long X 0.323" head diameter screw (corrosion resistant) through flange into framing		

Wind-Borne Debris Region: "Supplemental fasteners may be necessary when installing tabs in a Wind-Borne Debris Region, please call Technical Services 800-942-7343 with any questions."

RECOGNITION: HardieTrim boards may be installed as an equal alternative to conventional trim permitted for use in; the 1997 Uniform Building Code, Section 601.5.5; the 1997 Standard Building Code, Section 1404.1; the 1999 BOCA National Building Code, Section 1407.2.2; 2003 International Building Code, Section 1402.1, the 2003 International Residence Code for One - and Two - Family - Dwellings, Section R703.1, the 2003 International Residence Code for One - and Two - Family - Dwellings, Section R703.1, and the 1998 International One-and-Two -Family Dwelling Code, Section 601.1.

OUTSIDE CORNERS

Corners made from HardieTrim® 5/4, 4/4 boards can be pre-assembled before they're installed. Pre-assembled corners look better and generally make the installation go more quickly. To join two pieces of HardieTrim 5/4, 4/4 boards for a corner, drive 2-in. 16 ga. corrosion-resistant finish nails 1/2 in. from the edge and spaced 16-in. apart along the edge.

To fasten 4-in. corners to the wall, drive a pair of finish nails or siding nails, (one nail into each face of the corner) with the nails spaced 16 in. apart. For 6-in. corners, drive a pair of finish nails or siding nails into each face spaced 16 in. apart. Nails should be kept 3/4 in. from the edges of the board and 1-in. from the ends.

When walls are more than 10 ft. high, splice corner boards together using weather cuts of at least a 22.5° angle. The angle of the weather cut must slope downward and away from the building. Then nail both boards to the building with the same attachment schedule as for pre-assembled corners, except that 4-in. HardieTrim 5/4, 4/4 boards that should get two nails per side every 16 in. Only install trim by butting it with the siding. Do not install any trim product over James Hardie® siding.

1875

Pre-built corner installation 4-in boards

A pair of nails (one in each face) attach the corner to the building.

Water-resistant barrier

16-in. (max.)

Keep nails at least 1 in. from ends and 3/4 in. from edges.

Pre-built corner installation 6-in boards

Two nails in each face attach the corner to the building.

16-in. (max.)

Keep nails at least 1 in. from ends and 3/4 in. from edges.

1876

Weather cuts

Angle slopes down and to the outside.

NOTE: All weather cut joints should be touched up prior to installation.

1876

TIP: When pre-assembling exterior corners using HardieTrim 5/4, 4/4 boards, position the finish nailer parallel with the trim.

WARNING

Use only 2-in. 16-ga. finish nails to pre-assemble HardieTrim 5/4, 4/4 board corners.

INSIDE CORNERS

Inside corners can be made with either a single HardieTrim 5/4, 4/4 board in the corner, or with one board on each wall depending on the desired look.

1877

Single board

Installation of HardieTrim® 5/4, 4/4 & NT3™ Back Grooved Boards

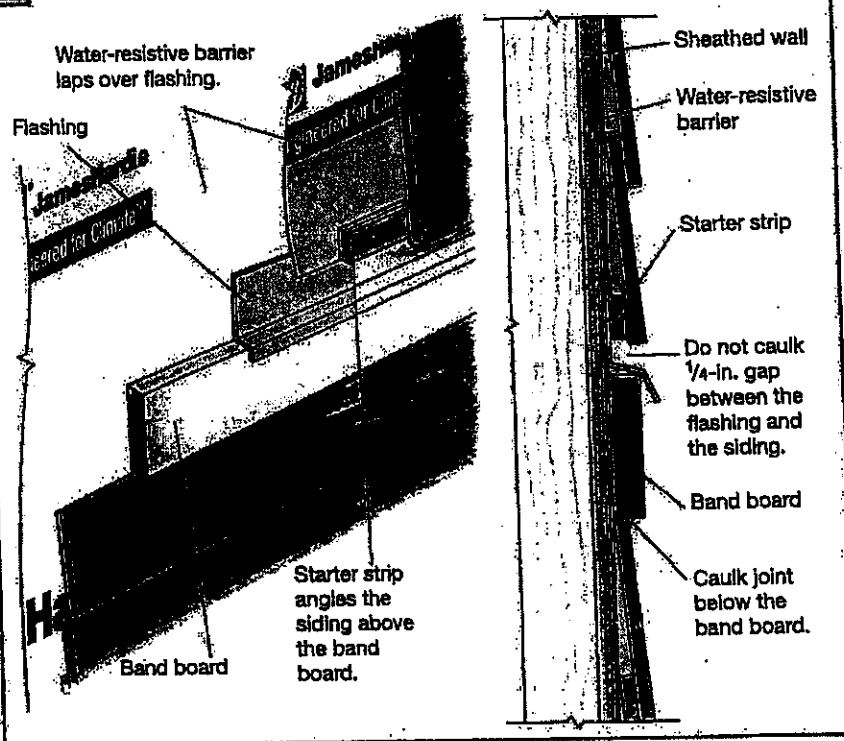
BAND BOARD

A Band board is a decorative horizontal trim used to break up the field of siding on a building. Any width of HardieTrim® 5/4, 4/4 boards can be used for band board depending on the type of detail desired. If installing a band board, pay special attention to flashing details and allow for potential shrinkage of solid rim joists in the walls that the band board may be attached to.

Caulk between the underside of the band board and the siding below. Do not caulk between the flashing and siding above the band board, and maintain a 1/4-in. gap between the two. Also make sure that the water-resistive barrier laps over the flashing for a continuous drainage plane. If running lap siding or shingle siding above the band board, a starter strip should be installed first to

maintain the correct siding angle. Small Periodic gaps should be left in the starter strip to provide an escape route for excess moisture that may drain down behind the siding.

Use bevel-cut splice joints of at least 22.5° to join long lengths of HardieTrim 5/4, 4/4 boards. To attach band board to the building, drive two recommended fasteners every 16 in. for 4-in. and 6-in. boards. For 8-in. boards, use three fasteners every 16 in., and use four fasteners every 16 in. for 12-in. boards.

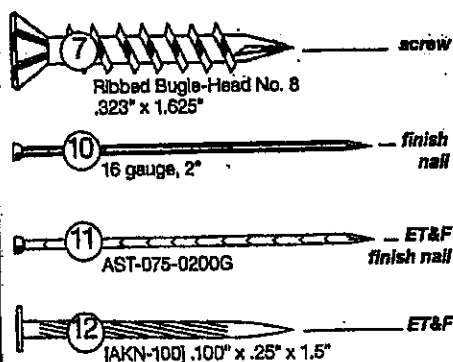


● Indicates recommended fasteners

HARDI TRIM 5/4, 4/4 BOARDS FASTENER SPECIFICATIONS

Fastening Substrate	Fastener
wood studs	10
over minimum 7/16" OSB	10
steel studs	7, 12, 11
Pre-built corners	10

Fastening Types



Nailing Patterns

Pre-built corners	4-in	1 nail every 16" to attach boards together 1 nail every 16" for each board
	6-in	1 nail every 16" to attach boards together 2 nails every 16" for each board
Site-built corners & other areas (eg. windows, etc.)	4-in & 6-in	2 nails every 16"
	8-in	3 nails every 16"
	12-in	4 nails every 16"

TIP: James Hardie recommends using stainless steel finish nails when installing HardieTrim Trim Board. Finish nails are products.

WINDOW AND DOOR TRIM

Windows and doors must be installed per the manufacturer's instructions. Window flanges or flashings must be properly installed and lapped correctly under the water-resistive barrier prior to the installation of HardieTrim® 5/4, 4/4 boards. Once the HardieTrim 5/4, 4/4 boards is put on, proper flashing must be installed above the trim and lapped under the water-resistive barrier correctly.

Install HardieTrim 5/4, 4/4 boards around doors and windows using the "cap over" method, which means that the header or horizontal top piece of the trim extends and caps over the vertical jamb pieces on both sides. For windows, the bottom trim piece or sill trim fits in between the jambs.

For cap-over trim installation:

- 1) Start by measuring the length of the bottom edge of the window, not including the flange.
- 2) Cut a piece of trim to that length and install it.
- 3) Next measure from the bottom of the installed trim to the top of the window.
- 4) Cut two pieces of trim to that length and install them on either side of the window.
- 5) For the cap, measure the distance between the outside edges of the side trim pieces. Cut a piece of trim to length and install it.

For doors the process is the same except that it starts with the side pieces, step three.

Window and door trim

Side trim pieces go to the top of the window.



Bottom trim piece is the width of the window.

Header piece spans the window including the side trim pieces.



821

Water-resistive barrier

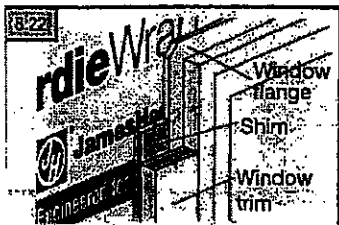
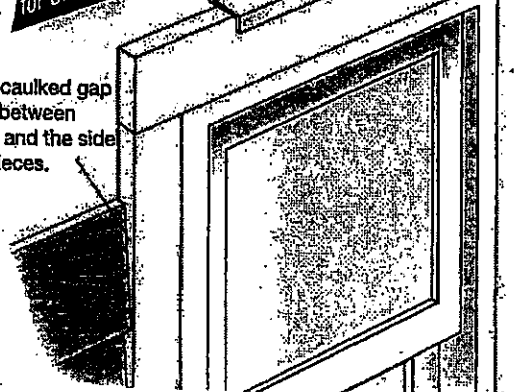
Starter strip

Do not caulk between the siding and the flashing.

Flashing



1/8-in. caulked gap is left between siding and the side trim pieces.

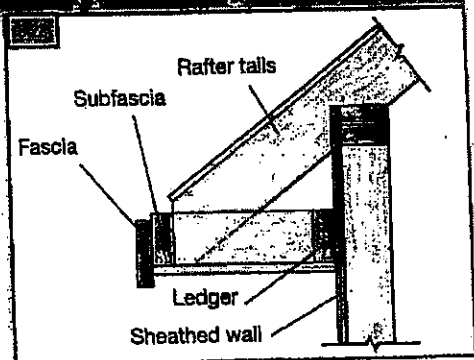


TIP: For trimming around windows and doors with attachment flanges, install a shim strip to build out the wall even with the flange. The strip is the trim's flange and parallel with the wall.

Installation of HardieTrim® 5/4, 4/4 & NT3™ Back Grooved Boards

INSTALLING RAKE AND FASCIA BOARD

For fascia and rake board applications, James Hardie requires that all HardieTrim® products be nailed over a wood or steel subfascia. James Hardie recommends that the fascia be no more than 2 in. larger than the subfascia, e.g. over a nominal 2x6 subfascia, install an 8-in. fascia board (7 1/4-in. actual) fascia. On longer fascia runs, join HardieTrim boards with weather/bevel cuts.

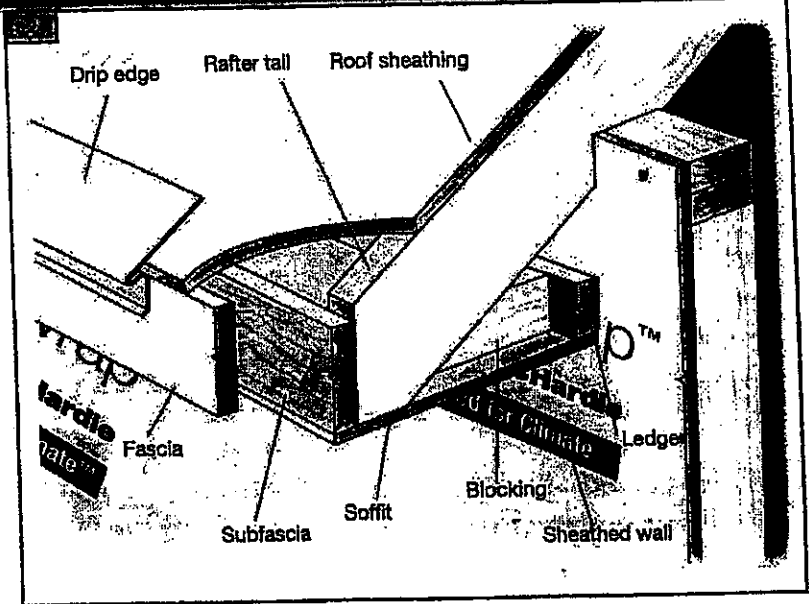


**WARNING**

Use only 2-in. 3-ga. 15° galvanized nails.
Fasten HardieTrim 5/4 boards 1/4 in. from corner.

DRIP EDGE

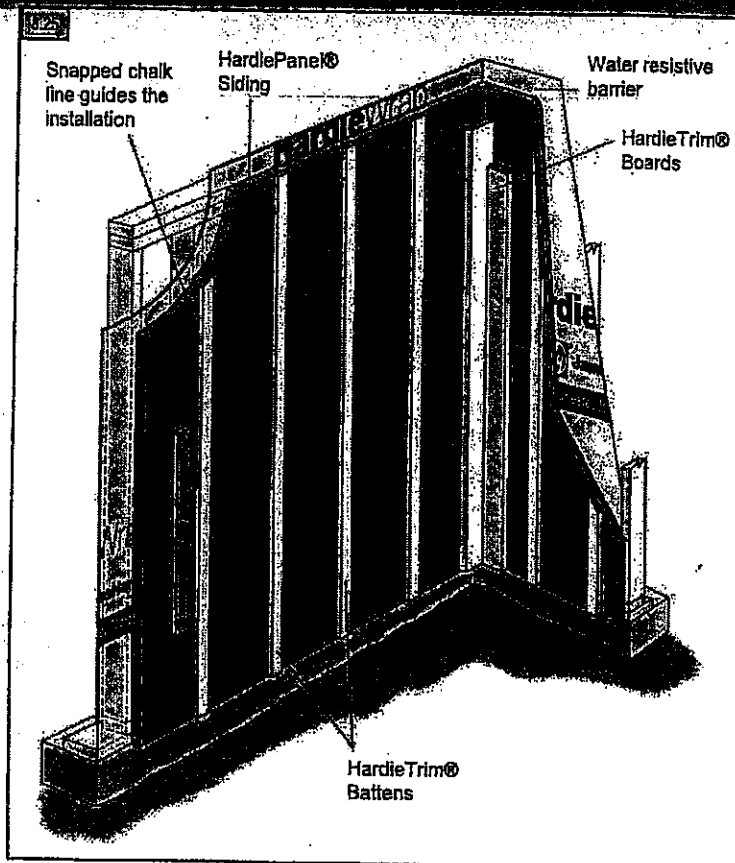
After the fascia is installed, a vinyl, coated aluminum or galvanized drip-edge flashing must be installed to the roof sheathing overlapping the fascia board. The drip edge helps protect the top edge of the fascia board and it minimizes water ingress into the soffit and/or cornice cavity. Choose a drip edge design that effectively channels water away from the face of the fascia and into gutters if present.



Installation of HardieTrim® Battens

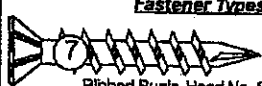
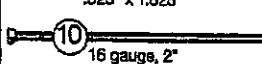
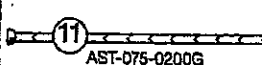

GETTING STARTED

HardieTrim® Battens are intended to be used with HardiePanel® vertical siding to achieve a board and batten look. HardieTrim Battens must be attached to wood or steel backing using an approved fastener from the table below. When installing HardieTrim Battens, determine layout and mark where battens will be attached. To ensure that HardieTrim Battens are installed vertically and parallel to each other, either snap chalk lines or use a level. When attaching battens ensure that fasteners are a minimum of 3/4" from edges, 1" from ends, and a maximum of 16" o.c.



● Indicates recommended fasteners. Required for ColorPlus® Products.

ColorPlus® TIP:
HardieTrim® Battens with ColorPlus® Technology are shipped with a protective emulsion film. James Hardie recommends keeping the protective film in place during cutting and fastening to reduce damage to the boards. Remove the protective film only after installing the boards and filling the nail holes with a colored touch-up paint. Finish nails are required for ColorPlus products.

Fastening Substrate	Approved Fastener	Fastener Types
wood studs	② ③ ⑩	 screw Ribbed Bugle-Head No. 8 .323" x 1.625"
over minimum 7/16" OSB	③ ⑩	 finish nail 16 gauge, 2"
steel studs	⑦ ⑫ ⑪	 ET&F finish nail AST-075-0200G
		 ET&F [AKN-100] .100" x .25" x 1.5"

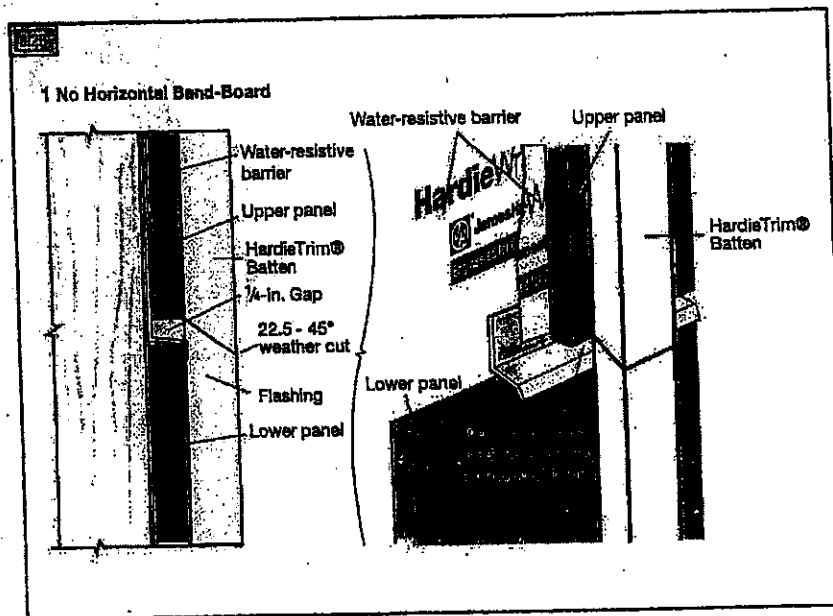
TIP: James Hardie recommends using stainless steel finish nails when installing HardieTrim® Trim, Battens, Fascia, etc. products.

Installation of HardieTrim® Battens (continued)

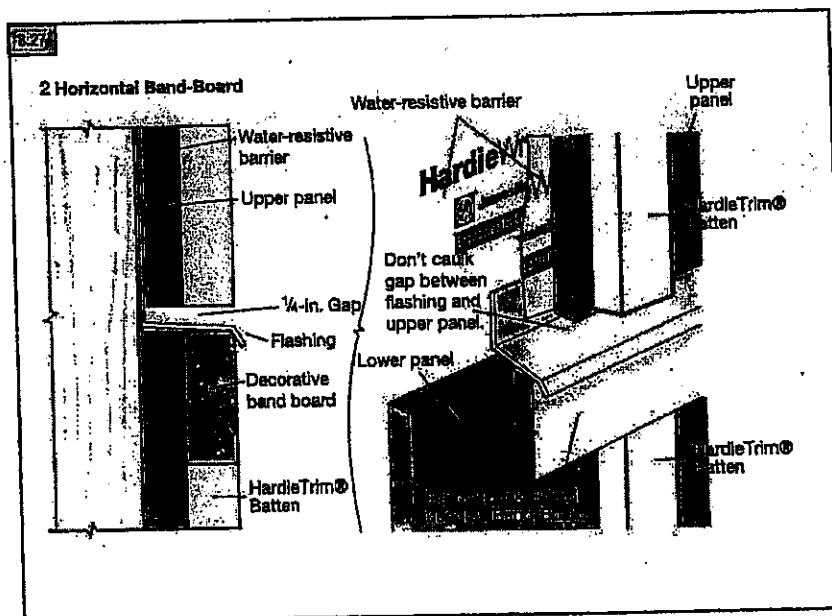
HORIZONTAL JOINT TREATMENT

Horizontal HardieTrim® Batten joints must occur at the same location as horizontal joints in HardiePanel® siding. Install horizontal HardieTrim Batten joints by using one of the following options:

1) If HardieTrim Battens are going to be installed over horizontal panel joints without the use of a horizontal band board, follow the procedure as illustrated in fig. 8.26. Start installing HardieTrim Battens by creating a weather-cut of at least a 22.5° angle, making a joint at the same location as the panel joint. Attach the bottom batten. Make sure the top batten has a matching weather-cut and then install top batten.



2) If HardieTrim Battens are to be installed over horizontal panel joints with the use of a horizontal band board, follow the procedure as illustrated in fig. 8.27. If HardieTrim Battens are to be installed horizontally, they must be installed in the same manner as in fig. 8.27. Make sure the horizontal Z-flashing is installed over both the lower panel and the horizontal band board. Attach the bottom batten tight to the bottom edge of the band board. Next, leaving a minimum 1/4" gap above the horizontal Z-flashing, install the top batten.



WARNING

Do not bridge floors with HardieTrim Battens and/or HardiePanel Siding. A horizontal joint should always be created between floors.

James Hardie® Products

Installation Guide

FOREWORD

James Hardie, the world leader in the manufacturing and development of fiber-cement building products, has produced this Installation Guide to help builders and contractors with the installation of James Hardie® siding and trim products, including James Hardie products with ColorPlus® Technology.

The first sections of this manual provide a general product description and information about safe practices, and proper tools for working with James Hardie siding and trim products. Sections that follow describe design and general installation information for specific James Hardie products. The appendix addresses the installation of James Hardie siding products in less common construction practices (e.g. concrete construction).

This manual must be read in conjunction with project drawings and specifications, applicable building codes, and relevant compliance documents. The details in this manual provide guidance on how to comply with James Hardie's installation requirements and need to be reviewed by all parties who are responsible for installing James Hardie products on a project.

This manual is subject to periodic re-examination and revision. For information on the current status of these documents please check the James Hardie website, www.jameshardie.com. The reader is responsible for ensuring that they are using the most up-to-date information.

TELEPHONE DIRECTORY

Technical Services 800-942-7343

Tech Barn for Samples and Literature 866-975-8822

Warranty 866-375-8603



James Hardie

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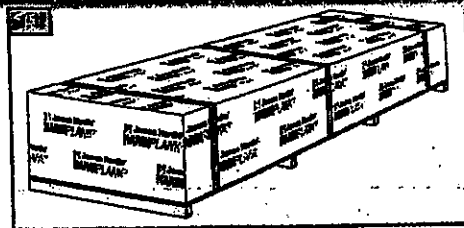
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General Product Information

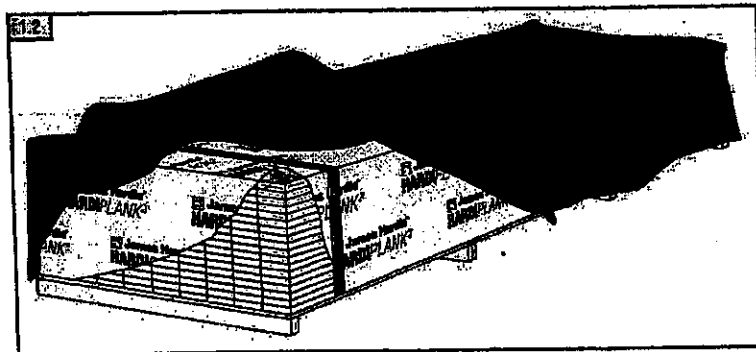
JOBSITE STORAGE OF JAMES HARDIE PRODUCTS

The James Hardie family of siding and trim products, including James Hardie® products with ColorPlus® Technology, should be stored in their original packaging in a garage, shed, or in some other covered area protected from weather whenever possible. These products must be kept covered on a pallet off of the ground; they must never be stored in direct contact with the ground.



James Hardie products stored in their original packaging.

If James Hardie products are stored outside they should be protected with an additional waterproof covering. All scrap siding and trim pieces, cutoffs or material left on scaffolding must be covered and protected from the elements. If James Hardie products become saturated, they must be laid on a flat surface and allowed to dry completely prior to installation.



If stored outside protect with an additional waterproof covering.



WARNING

James Hardie products should not be rolled or dropped for the full duration of the life cycle. James Hardie recommends using a box lift to lift long materials uniformly by hand.

IMPORTANCE OF KEEPING JAMES HARDIE PRODUCTS DRY

James Hardie siding and trim products must be kept dry at all times prior to installation. If products become saturated before they are installed, the following problems may occur:

OPEN JOINTS DUE TO SHRINKAGE

If installed wet, joints between planks may open up requiring repair or replacement. Under normal environmental conditions fiber cement has significantly greater dimensional stability than wood or vinyl-based exterior products.

DIFFICULTY IN HANDLING

Saturation increases the weight and flexibility of fiber-cement products, making them difficult to handle.

STAINING

Staining is a deposit of soluble salts, usually white in color, which sometimes appears on the surface of masonry or concrete construction.



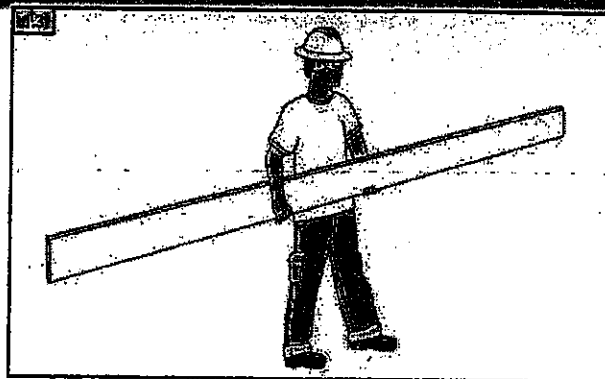
WARNING

James Hardie is not responsible for damage due to improper storage and handling of its products.

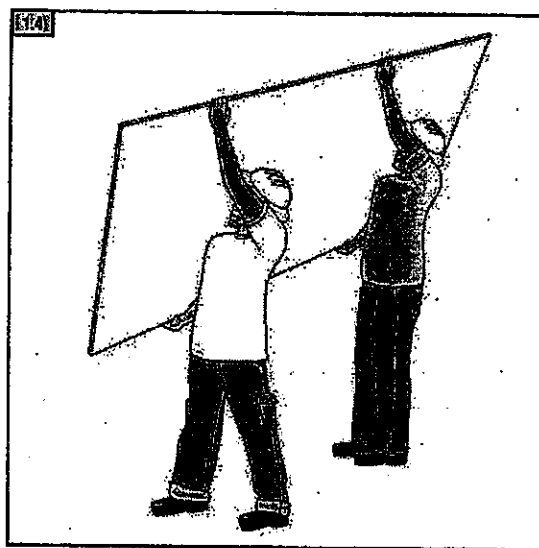
PROPER HANDLING OF JAMES HARDIE PRODUCTS

To help avoid injury and product damage, lap siding, trim, and soffit material should always be carried on edge. James Hardie recommends that these products be carried by two people whenever possible with each person positioned near the end of the load. To carry a plank solo, a person should hold it on edge in the middle with arms spread apart for maximum support of the product. Lifting or carrying lap siding or trim flat may break or bend the product.

James Hardie recommends that two people always carry panel products. Workers should hold the panel near each end and on edge. Because of reduced visibility when handling panel products, take extra care to avoid damaging the corners and edges of the panel.



One person should hold planks on edge in the middle with arms spread apart for maximum support of the product

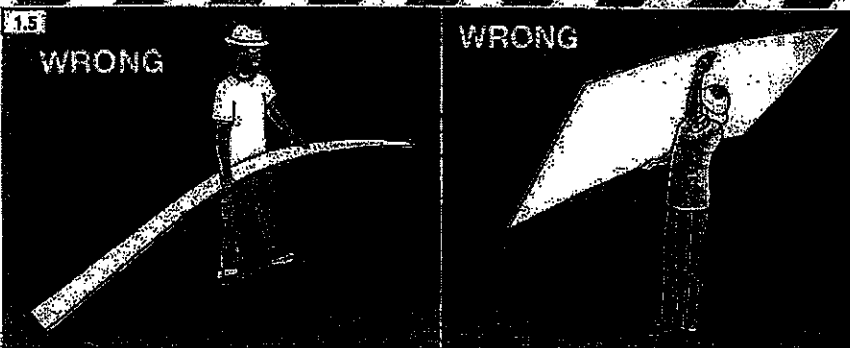


Two people should always carry panel products.

TIP: When handling panel products, manufactured panel carriers or caddies can give workers better control.

WARNING

Carrying James Hardie ColorPlus siding products flat may cause excessive bending, which can damage the finish.



Working Safely with James Hardie® Products

MINIMIZE AND MANAGE SILICA DUST

Silica (SiO_2) is the second most common mineral in the earth's crust, and it's a common ingredient in many building products, including James Hardie® fiber-cement materials. Intact, these products do not pose a silica risk. However, when cut, drilled or abraded during installation, the resulting smaller, silica-containing dust can pose a potential health hazard as inhalation of excessive quantities over an extended period can cause silicosis, lung-cancer or other lung-related diseases, potentially leading to death.








To protect workers from potential health effects, OSHA established and enforces a permissible exposure limit (PEL) for respirable silica set effectively at 0.100 mg/m^3 . This PEL is an 8-hr. time-weighted average and is measured with special industrial hygiene equipment. Any exposure above this level requires that the installer take additional protective measures that might include a documented respirator program and medical monitoring.

James Hardie always encourages installers to take every possible precaution to minimize dust exposure levels. In any situation, properly-fitted NIOSH approved respirators (e.g. N95) can be used in conjunction with the proper tools and cutting methods to further limit silica dust exposures and to provide a safer workplace.

If additional concern regarding dust exposure levels exists, if there is concern about exceeding OSHA's PEL, or if the conditions of your jobsite do not allow you to conform to recommended practices, please contact James Hardie at 1-888-JHARDIE (542-7343), or consult with a qualified industrial hygienist (IH). A directory of independent IH consultants can be found at www.aiha.org.

WORKSAFE FOLLOW JAMES HARDIE PRODUCT CUTTING INSTRUCTIONS

To create and maintain safer jobsites, James Hardie has developed the following "tiered" system to help select the best tools and methods for any given job. **Note:** For maximum protection (i.e. the lowest respirable dust exposures), James Hardie recommends using "Best" cutting methods and tools whenever possible. Please contact James Hardie or consult with a qualified industrial hygienist if unable to adhere to the recommended cutting instructions.

Rating	Tools	Cutting Method	Cutting Volume	Ventilation
Best	 or 	Handheld Shears, Platform Shears, Score and Snap	No Limitations	Indoor/Outdoor
Better	 and  and 	Dust-reducing saws with HardieBlade® saw blade coupled with HEPA vacuum extraction	No Limitations	Outdoor
Good	 and 	Dust-reducing saws with HardieBlade saw blade	Low to Moderate	Outdoor

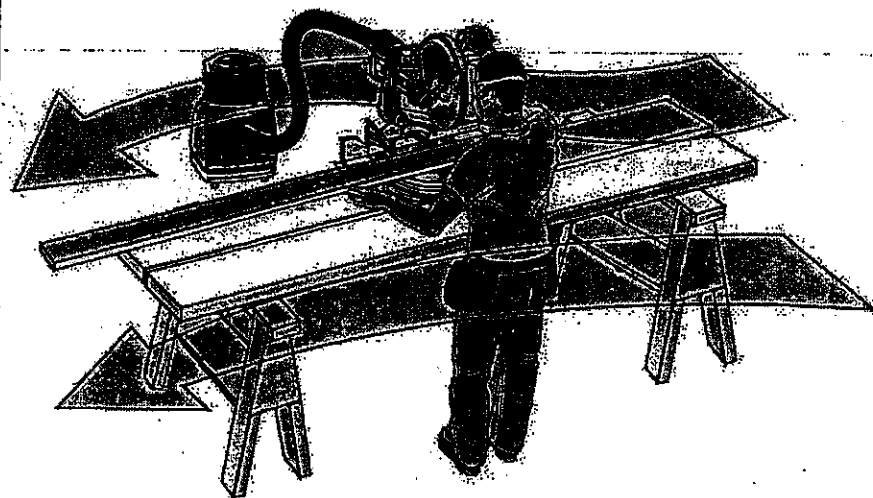
CUTTING STATION SET UP

Set up all cutting tables or workstations in well-ventilated outdoor areas so that any generated dust is carried safely away from workers. If an area with adequate ventilation is not available, a NIOSH approved respirator should be used.

CLEAN UP AND DISPOSAL OF DEBRIS

When cleaning up dust and debris from cutting James Hardie® products, never use a broom or brush if the debris material is dry. Sweeping dry material may send dust particles into the user's breathing area. Instead, wet down the debris with a fine mist to suppress dust during sweeping or use a HEPA vacuum. Waste pieces of James Hardie siding and trim products can be disposed of in landfills according to local ordinances. No special handling is required.

2.1 Set up cutting station so that the wind carries dust away from the saw operator.



TIP: As with any pre-finished building product, care should be taken when handling and cutting James Hardie ColorPlus products. At the job-site use a soft cloth to gently wipe any residue or construction dust left on the product.

WARNING

Never use high-speed power tools when cutting James Hardie products indoors.

WARNING

Prior to using any James Hardie® products, all users must read all applicable warnings (including MSDS) and comply with all installation instructions. Failure to do so may result in serious personal injury.

WARNING: AVOID BREATHING SILICA DUST

James Hardie® products contain respirable crystalline silica, which is known to the State of California to cause cancer and is considered by IARC and NIOSH to be a cause of cancer from some occupational sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) use fiber cement shears for cutting or, where not feasible, use a HardieBlade™ saw blade and dust-reducing circular saw attached to a HEPA vacuum; (3) warn others in the immediate area; (4) wear a properly-fitted, NIOSH-approved dust mask or respirator (e.g. N-95) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods; never dry sweep. For further information, refer to our installation instructions and Material Safety Data Sheet available at www.jameshardie.com or by calling 1-800-9HARDIE (1-800-942-7343). FAILURE TO ADHERE TO OUR WARNINGS, MSDS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

SD050905

Product Information

Safety

Cutting and Fastening

Installation Requirements

Fastener Requirements

Maintenance

Weather Barrier

Boards/Barriers

Partials

Lap Siding

Trimming Siding

Horizontal Siding

Vertical Siding

2280 Report

Tools for Cutting and Fastening Fiber-Cement Products

James Hardie promotes certain tools and products for the safest and best way to cut their fiber-cement products, consistent with its best practice recommendations (please refer to page 6-7). However, please consult tool manufacturer instructions and guidelines for the safe operation of specific tools. The tools listed here are not made for, or by, James Hardie Building Products, Inc. and James Hardie accepts no liability for their use or misuse.

SHEARS

Because shears produce less dust than high-speed tools, they are the preferred method of cutting lap and panel siding products. Both electric and pneumatic shears are available, and they may be used for cutting indoors as well as outdoors. Shears are available that can make straight or radius cuts in fiber cement products with relative ease. Shears cannot be used to cut HardieTrim® boards.



TIP: For the smoothest cuts, when cutting James Hardie® siding products with a shear or circular saw, cut the board face down. When using a miter saw, cut the board face up. If installing James Hardie siding products with ColorPlus® Technology, leave the protective laminate film in place while cutting.

CIRCULAR SAWS

When cutting any James Hardie siding, soffit, or trim product with a circular saw, use only tools that are designed specifically for dust reduction. A dust-reducing circular saw has either a deflector to direct any dust away from the user's breathing area or a collection box to capture the dust. James Hardie recommends that a HEPA-equipped vacuum system be used in conjunction with any circular saw. (Circular saws should only be used in outdoor, well-ventilated areas.)



⚠ WARNING

The HardieBlade saw blade is specifically designed to cut fiber cement products with minimum dust. Do not use continuous edge trimmer blades, abrasive discs, or chain tools. Do not use circular saw blades when cutting James Hardie siding products. Only blades with the HardieBlade saw blade design should be used when cutting.

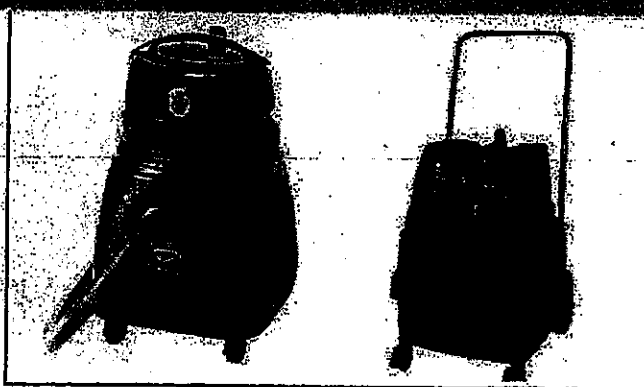


⚠ WARNING

Always make sure the saw manufacturer's safety equipment is in place and in good working order.

HEPA VACUUMS

Always use a vacuum equipped with a HEPA filter to help minimize the amount of respirable dust during power saw cutting and clean-up. Many vacuums are designed to connect directly to power tools and run only when the power tool is being operated. In addition to a HEPA filter, using a disposable drywall or collection bag is recommended to extend the life of the HEPA filter and make disposal easier and safer.



WARNING

Caution: Tools and blades designed to reduce breathable silica do not always result in safe levels by themselves. Many other factors can influence dust exposure including jobsite ventilation, the amount of material being cut and breathing protection being used. If uncertain about exposure or protection in a specific situation, always consult a qualified industrial hygienist to determine actual exposure levels.

POWER MITER SAWS

Like circular saws, a power miter saw should only be operated outdoors in well-ventilated areas. Power miter saws should be equipped with a HardieBlade® saw blade and should be used in conjunction with a vacuum equipped with a HEPA filter for maximum dust protection.

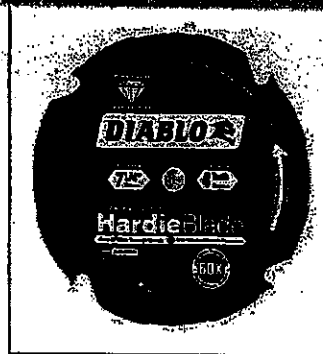


WARNING

Never use high-speed power tools when cutting James Hardie® products indoors.

SAW BLADES

Traditional blades that are not designed for cutting James Hardie products may generate excessive dust, cut slowly, or exhibit premature wear. The HardieBlade® saw blade is a unique circular saw blade designed to generate less respirable dust than a traditional saw blade or continuous rim diamond blade. The HardieBlade can also be used to cut the full line of James Hardie products and are available in 7 1/4-in., 10-in., and 12-in diameters. To extend the life of a HardieBlade saw blade, do not use it to cut any materials other than fiber cement.



Tools for Cutting and Fastening Fiber-Cement Products

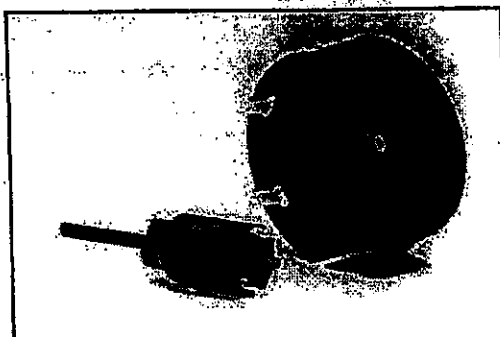
JIG SAWS

Jig saws equipped with a fiber-cement cutting blade may be used to cut service openings, curves, radii, scrollwork, and other irregular shapes in James Hardie® products. Because most jig saws are not equipped with dust collection capabilities, these tools also should only be used outdoors in well-ventilated areas and for limited amounts of cutting.



DRILLING FIBER CEMENT

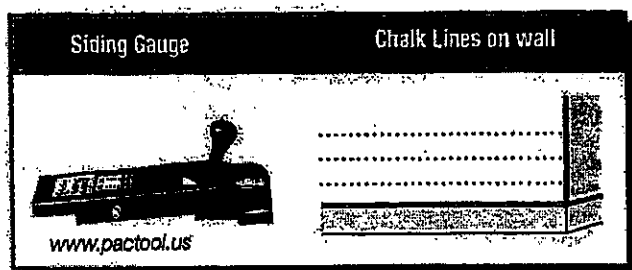
When required to drill a hole in fiber cement products, a masonry bit should be used. For larger holes, a carbide tipped hole saw can be used. Due to the lack of dust collection, drills and hole saws should only be used outdoors in well-ventilated areas and for limited amounts of cutting. For best results, use a hole saw specifically designed for fiber cement.



www.malcoproducts.com

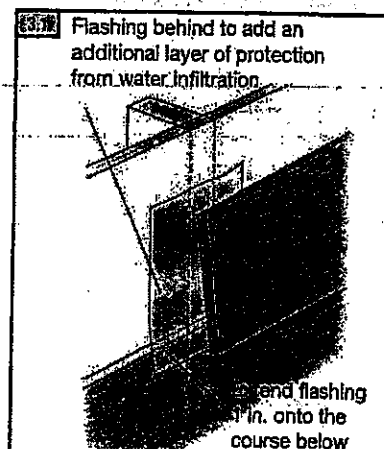
LAP GAUGES

Several different methods exist to ensure proper spacing and overlap of fiber cement products. The slowest method is to snap a chalk line with the proper spacing above each row of fiber cement as it is being installed. The siding gauge leads all other alignment devices in ease of use, speed, and effectiveness. James Hardie recommends the use of siding gauge when installing lap siding. When installing HZ5®, special care must be taken when using lap gauges so the drip edge is not damaged. For best results, use a Siding Gauge that is specifically designed for HZ5®.



JOINT FLASHING

Flashing behind butt joints provides an extra level of protection against the entry of water at the joint. James Hardie recommends 6-in. wide flashing that overlaps the course below by 1 in. Some local building codes may require different size flashing. Joint-flashing material must be durable, waterproof materials that do not react with cement products. Examples of suitable material include finished coil stock and code compliant water-resistive barriers. Other products may also be suitable.



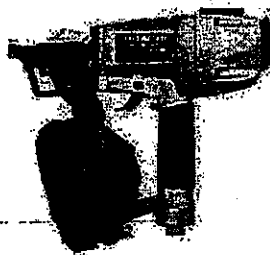
POWER NAILERS AND DIRECT-TO-STEEL FASTENING TOOLS

Pneumatic nailers and cordless nailers can be used to attach James Hardie products to wood, steel, or masonry substrates. Pneumatic tools require the use of an air compressor with a hose. Finish nailers should be used for HardieTrim® boards only. Additionally, direct-to-steel tools such as those made by ET&F are designed specifically for fastening to steel framing. Refer to the product-specific installation instructions in each section for fastener choices.

Power nailers recommended for attaching James Hardie products are siding nailers, roofing nailers and finish nailers. Below is a chart showing the appropriate nailer for each of the James Hardie siding and trim products. Be sure that the nailer chosen fires the fastener recommended for each product for the specific installment situation.

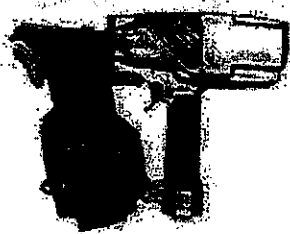
PNEUMATIC NAILER USAGE WITH JAMES HARDIE® PRODUCTS

Siding Guns



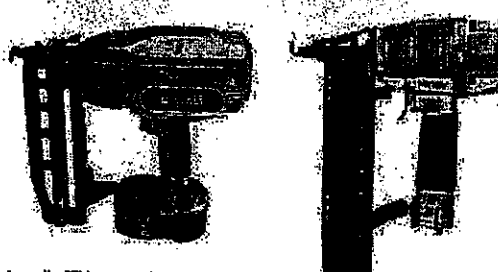
HardiePlank® Lap Siding
HardiePanel® Vertical Siding
HardieShingle® Panels
HardieSoffit® Panels

Roofing Guns



HardiePlank® Lap Siding
HardiePanel® Vertical Siding
HardieShingle® Panels

Finish Guns



HardieTrim® 5/4, 4/4 Boards
HardieTrim® Batten Boards

TIP: If framing nailers are used to install James Hardie products, be sure they are fitted with a flush mount attachment to control nail seating depth.

Tools for Cutting and Fastening Fiber-Cement Products

NAIL GUNS

Pneumatic nail guns can be used to attach James Hardie products to wood, steel or masonry substrates. Finish nail guns can be used for HardieTrim® board only. Refer to the product specific installation instructions for fastener choices. Below are examples of commonly used nail guns.

Hitachi (www.hitachipowertools.com)
(NT65A2) 2 1/2" 16 gauge Finish Nailer
(NV65AH) 2 1/2" Siding Nailer
(NV45AB2(S)) 1 3/4" Coil Roofing Nailer
(NV75AG) 3" Coil Nailer

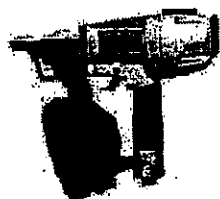
Dewalt (www.dewalt.com)
(D51257K) 1-1/4" - 2-1/2" 16 Gauge
Straight Finish Nailer Kit

ET&F Fastening Systems (www.etf-fastening.com)
(500) Nailer to Steel Studs
(510) Nailer to Steel Studs
(610) Nailer to Steel Studs
(110) Finish Nailer to Steel Studs

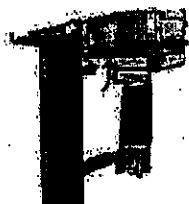
Duo-Fast (www.duo-fast.com)
(P275C) Siding Coil Nailer

Porter Cable (www.deltaportercable.com)
(COIL250) 2 1/2" Coil Nailer

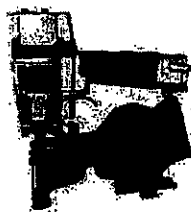
Aerosmith (www.AerosmithFastening.com)
(ST4100/ST4200) Nailer to Steel Studs
(HN120) Nailer to Masonry
Requires special high pressure air compressor
model number AKHL1050E



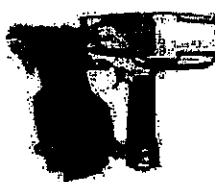
NV65AH



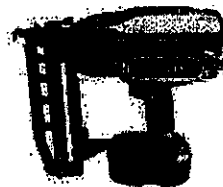
NT65A2



NV45AB2(S)



NV75AG



DC616KA1



P275C



ET&F 510



610 ET&F



110 ET&F



ST4100/
ST4200



HN120

USEFUL HAND TOOLS

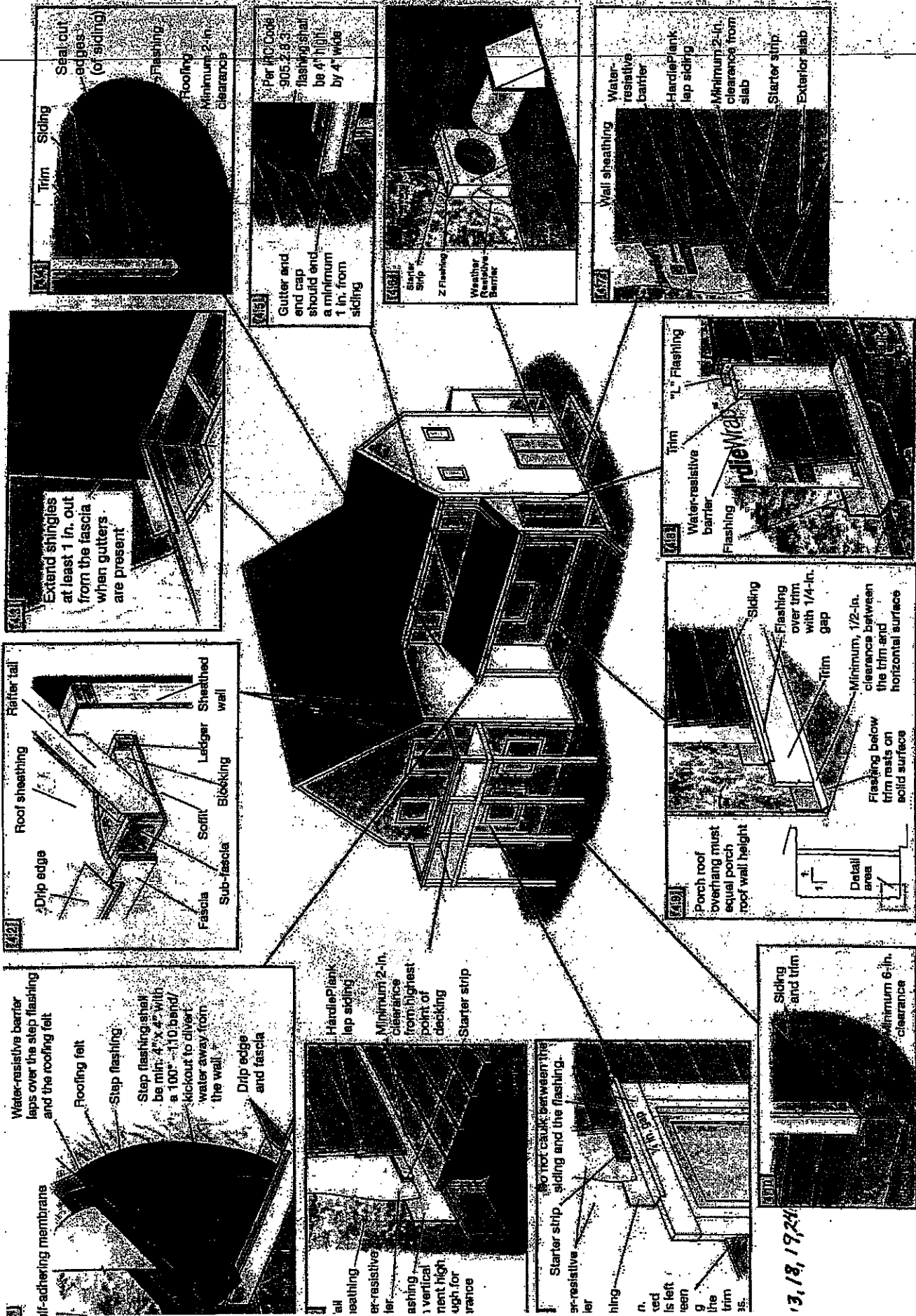
In addition to the power tools listed above, certain hand tools are necessary for the installation of James Hardie® siding and trim products.

These include:

- 25-ft. contractors tape measure
- Torpedo level
- Pencil or pen
- Smooth-faced hammer
- Speed square
- 4-ft. or longer level

TIP: If hand nailing, use a smooth faced hammer to avoid marking the product. Waffle-headed hammers should not be used when hand nailing James Hardie siding and trim products.

General Installation Requirements



General Installation Requirements (continued)

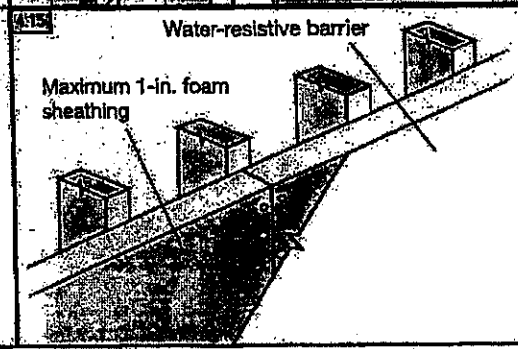
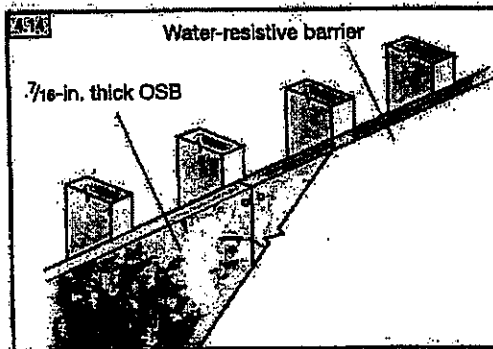
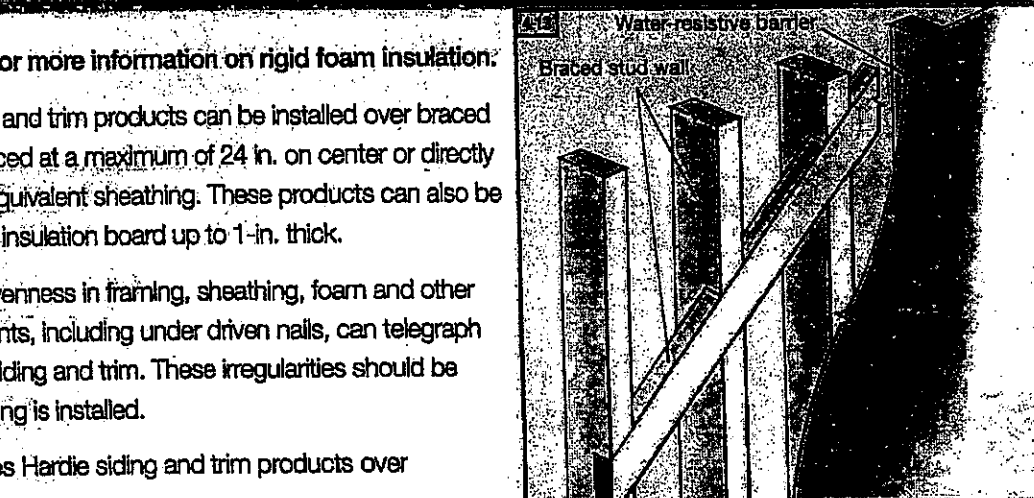
FRAMING AND SHEATHING

Refer to the appendix for more information on rigid foam insulation:

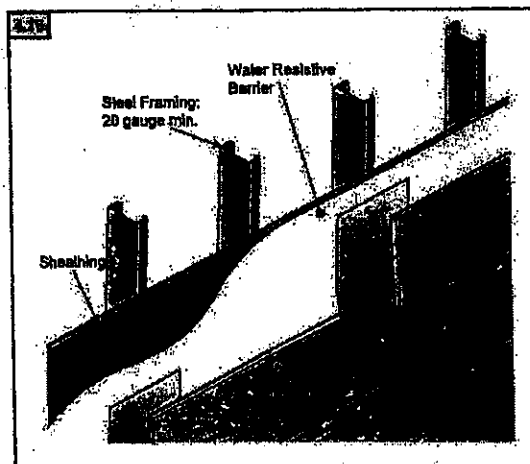
James Hardie® siding and trim products can be installed over braced wood or steel studs spaced at a maximum of 24 in. on center or directly to $\frac{7}{16}$ -in. thick OSB or equivalent sheathing. These products can also be installed over solid-foam insulation board up to 1-in. thick.

Irregularities and unevenness in framing, sheathing, foam and other wall assembly components, including under driven nails, can telegraph through to the finished siding and trim. These irregularities should be corrected before the siding is installed.

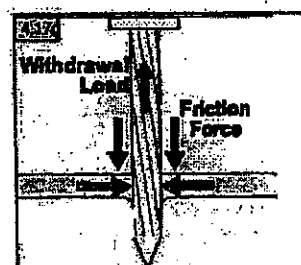
When installing James Hardie siding and trim products over steel studs James Hardie requires a minimum 20 gauge and recommends a maximum of 16 gauge. Steel framing that is outside of this range may be too flimsy to provide adequate holding power or too heavy for some fastening systems.



When using pins to attach siding products to steel, it is important to hold the material tight to the steel framing when driving the pin as the pin will not pull the material tight to the framing the same as a nail into wood will. Once the pin has been driven into the steel stud it is also important to not set or hit the nail a second time with a hammer. When driven into steel, the ballistic-shaped point uniformly pierces the steel instead of drilling it out or tearing the steel. The displaced steel rebounds around the pin to create a strong compressive force on the shank of the pin. When the pin is hit with a hammer it disrupts the compressive and frictional forces holding the pin and significantly reduces the overall holding capacity of the pin. If the pin does not set properly during the first attempt, the pin should be removed and replaced with a second pin.



When using a screw to attach James Hardie products to steel, a screw with a self tapping point should be used. A self tapping screw functions by having a cutting edge which drills away the material, making a tiny hole for the screw to go into. Some self tapping screws may be wing tipped which are intended to bore out the fiber cement (creating a pilot hole), and will break off as the screw goes into the steel. Either type of screw is acceptable for use.



Refer to the correct code compliance reports when selecting a fastener for steel applications and choose the corresponding tools from the tool section of this guide.

WATER-RESISTIVE BARRIER

Prior to siding, make sure the water-resistive barrier is properly installed according to the manufacturers' instructions. Refer to page #30 for more information on HardieWrap® weather barrier including complete installation requirements.

IBC Code Reference: "1403.2 Weather protection. Exterior walls shall provide the building with a weather-resistant exterior wall envelope. The exterior wall envelope shall include flashing, as described in Section 1405.3. The exterior wall envelope shall be designed and constructed in such a manner as to prevent the accumulation of water within the wall assembly by providing a water-resistive barrier behind the exterior veneer, as described in Section 1404.2, and a means for draining water that enters the assembly to the exterior. Protection against condensation in the exterior wall assembly shall be provided in accordance with the International Energy Conservation Code.

Exceptions:

1. A weather-resistant exterior wall envelope shall not be required over concrete or masonry walls designed in accordance with Chapters 19 and 21, respectively.
2. Compliance with the requirements for a means of drainage, and the requirements of Sections 1404.2 and 1405.3, shall not be required for an exterior wall envelope that has been demonstrated through testing to resist wind-driven rain, including joints, penetrations and intersections with dissimilar materials, in accordance with ASTM E 331 under the following conditions..."

STAGING

Heavy building products and components such as roofing, drywall and floor coverings should be stored throughout the structure prior to the installation of the siding. Distributing the weight in this manner will reduce the possibility of floor plate compression on two or more story homes.

FLASHING

When using James Hardie siding, trim, and weather barrier products, make sure that roof flashing, water table flashing, window and door flashing, and flashing for other building envelope penetrations are properly installed and lapped so that moisture drains down and to the exterior. Note: The successful installation of flashing requires thorough planning before installation of roofing or siding. Scheduling and sequencing are important factors as well as having the correct flashings available on site at the correct time. James Hardie does not recommend the use of mill finished, raw aluminum flashing or any other product that may bleed or adversely react with cement products. Painted or coated aluminum flashings are recommended.

Manufacturers of ACQ and CA preservative-treated wood recommend spacer materials or other physical barriers to prevent direct contact of ACQ or CA preservative-treated wood and aluminum products. Fasteners used to attach HardieTrim Tabs to preservative-treated wood shall be of hot dipped zinc-coated galvanized steel or stainless steel and in accordance to 2009 IRC R317.3 or 2009 IBC 2304.9.5."

IBC Code Reference: "1405.3 Flashing. Flashing shall be installed in such a manner so as to prevent moisture from entering the wall or to redirect it to the exterior. Flashing shall be installed at the perimeters of exterior door and window assemblies, penetrations and terminations of exterior wall assemblies, exterior wall intersections with roofs, chimneys, porches, decks, balconies and similar projections and at built-in gutters and similar locations where moisture could enter the wall. Flashing with projecting flanges shall be installed on both sides and the ends of copings, under sills and continuously above projecting trim."

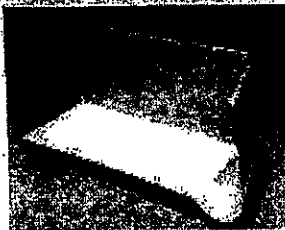
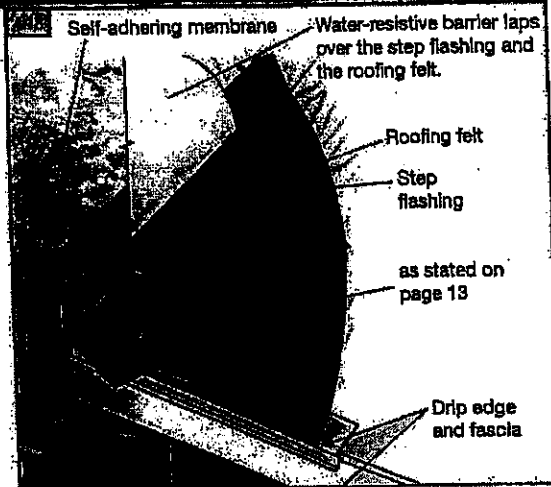
General Installation Requirements (continued)

ROOF-TO-WALL FLASHING

Due to the volume of water that can run down a sloped roof, one of the most critical flashing details is where a roof intersects with a sidewall. Install a self-healing adhesive-backed membrane along the roof/wall intersection before flashing. The membrane on the wall should extend behind the eaves framing and should be installed before the sub-fascia or trim goes on.

The roof should then be flashed to the wall with step flashing positioned at every shingle course. Where the roof begins at its lowest point, install a kickout flashing to deflect water away from the siding. Kickout flashing can be made by cutting and bending a piece of step flashing at an angle. The water-resistive barrier on the wall should then lap over the step flashing.

There are several companies that sell pre-made kickout flashings that are designed to divert water away from the wall. Below is an example of a preformed polypropylene kickout. Be sure to follow all manufacturer's installation instructions.



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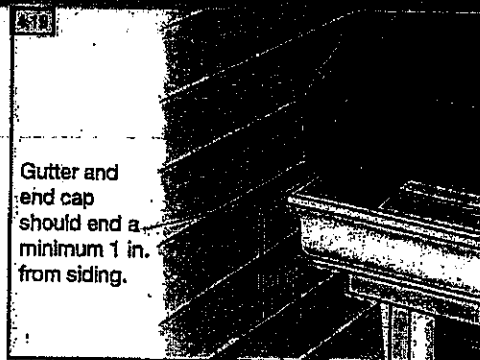
WARNING

Caution: This kickout flashing must be installed as required by the code (IRC 1505.2.4) and be applied between 1/2" - 1 1/2" above the water line on the wall and the roof and at the end of the roof intersection.

GUTTERS

If gutters are installed, they should not terminate against siding or trim. Maintain a 1-in. clearance between the siding and the gutter end-cap. Kickout flashings should be installed on the roof above to divert roof runoff into the gutters and away from the 1-in. gap.

The amount of water that can be generated from a rain shower or storm can be substantial. Managing the collection and distribution of this water is important over the life of a home.



TIP: James Hardie recommends the use of rain gutters whenever possible.

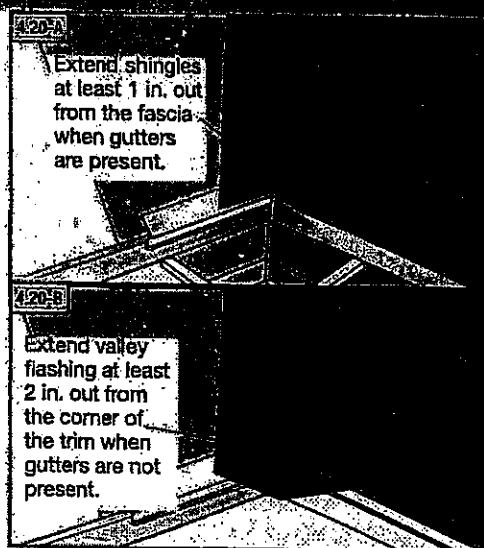
IBC Code Reference: "1503.2.1 Locations. Flashing shall be installed at wall and roof intersections, at gutters, wherever there is a change in roof slope or direction and around roof openings..."

VALLEY FLASHING

For added protection at roof valleys, James Hardie requires one of the following options:

- 1) **If rain gutters are present:** As the roof is being shingled, have the roofer extend the shingles at least 1 in. out from the fascia to direct water directly into the gutters (figure 4.20-A).
- 2) **If rain gutters not present:** When rain gutters are not present, have the roofer extend the valley flashing at least 2 in. out from the corner to direct water further away from the building (figure 4.20-B).
- 3) If the roof is already flashed and shingled, add a short piece of flashing to extend the valley in compliance with figure 4.20-B.

The above requirement also applies to roof valley's at any other locations where the fascia runs into a roof line such as dormer valleys and roof-to-roof intersections.



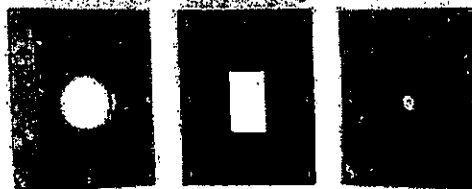
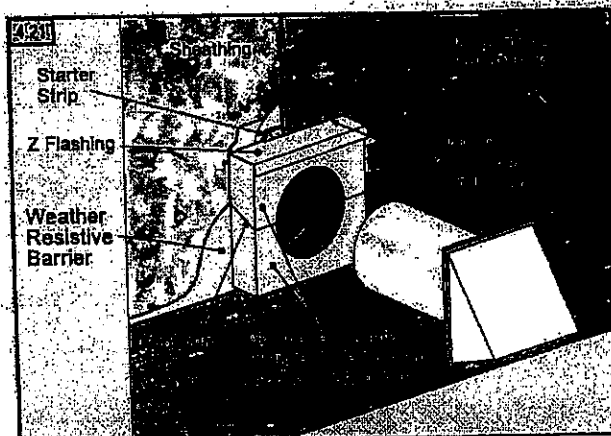
General Installation Requirements (continued)

PENETRATIONS

For penetrations in the building envelope such as hose bibs and holes 1 1/2" diameter or larger, such as dryer vents, a block of HardieTrim® 5/4, 4/4 boards shall be installed around the point of penetration. Blocking **should** be a minimum 3" radius greater than the radius of the penetration. To install a block around an existing vent pipe, it may be necessary to cut the block into two pieces. In this case, weather-cut the trim to fit it into place. Install flashing over the top of the trim block.

Penetrations through a building envelope are made to accommodate needs such as hose bibs, dryer and furnace vents, electrical conduit, etc. It is important to restore the weather-resistant barrier of the home after cutting a hole for the penetration.

There are several pre-made blocking and flashing products available that can simplify the installation of a penetration. One such example is Sturdimount®. Be sure to follow all manufactures installation instructions.



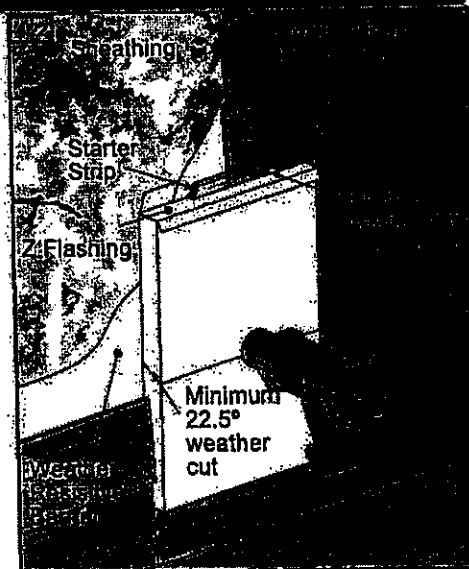
Sturdimount.

TIP: Almost all penetrations will require blocking and flashing, some planning is required. As the trim is ordered or the home done, forget to order some extra to save on blocking.

HOSE BIBS

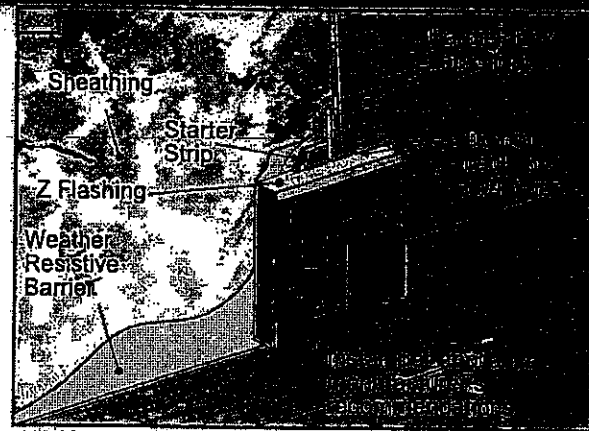
Hose bibs are a source of water which increases the likelihood of moisture related problems. The goal is to keep the water outside of the building and the best way to do this is keep the water off the walls. A good preventative measure is to extend the hose bib further from the wall. A downward slope on the water pipe as it leaves the building will also encourage any slow leaks to fall away from the home.

Large piping over 1 1/2" diameter is required to have blocking and flashing at the penetration. A block of HardieTrim® 5/4, 4/4 boards should be installed around the point of penetration. To install a block around an existing pipe, it may be necessary to cut the block into two pieces. In this case, weather-cut the trim to fit it into place. Install flashing over the top of the trim block.



HOT AIR VENTS (Dryer, Stove, Furnace, Heater, Etc.)

For hot air vents including dryer vents, stove vents, and furnace and heater exhaust, it is important to move the air away from the building envelope. As the vent is installed, a path for that moisture to leave the area should be identified. Consider what is being vented and where it is going before installing the vent. For instance, a dryer vent directly under an eave is going to force hot, moist air to rise and collect at the soffit. A good preventative measure for many vents is to increase the distance they extend from the wall to help expel moisture from the building.



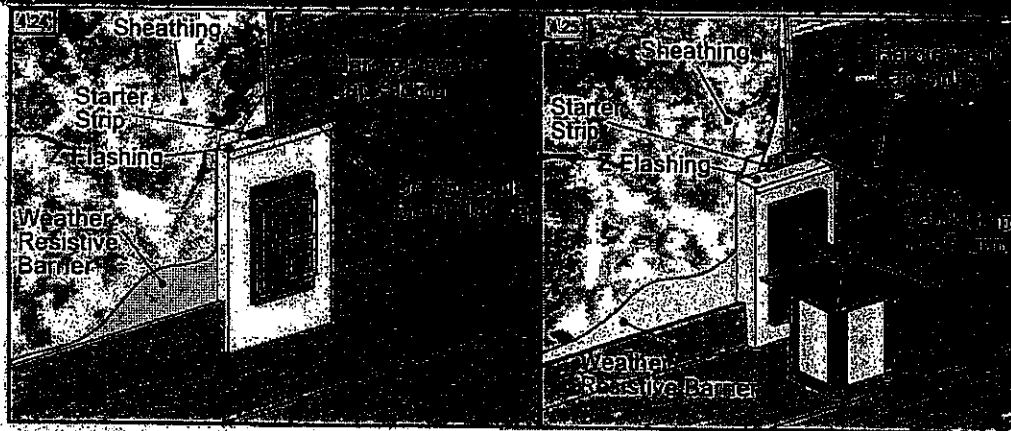
For dryer vents, avoid placement too low to the ground where debris could easily impede air flow, trapping heat and moisture. Some types of high efficiency furnaces can be vented out through the walls. In these cases, avoid locating the vent too close to the roof or eaves where heat and moisture will be trapped.

TIP: Consider location of the vent prior to installation and consider extending the vent further from the wall.

Any vent piping is required to have blocking and flashing at the penetration. A block of HardieTrim® 5/4, 4/4 boards should be installed around the point of penetration. The blocking should extend 3-4" along the wall from the edge of the vent. To install a block around an existing vent, it may be necessary to cut several blocks, with weather-cuts on each piece. Flashing must be installed over the top of the trim block.

LIGHTS AND ELECTRICAL OUTLETS

Lights and Electrical boxes should have the same flashing and blocking as other large penetrations such as vents. Many lights utilize square electrical boxes. Blocking a square object should still incorporate the best practices of an angled weather cut, when necessary.



General Installation Requirements (continued)

WIRES, CONDUIT, OR OTHER FIXED PIPES

For small penetrations such as wires, electrical conduit, and pipes less than 1 1/2" in diameter (excluding hose bibs) no blocking is necessary. The circumference of pipe or wire should be sealed with a barrier foam and/or caulked.



AIR CONDITIONERS, SERVICE PANELS, AND OTHER WALL MOUNTED DEVICES

Wall mounted devices and air conditioners represent large penetrations into the building envelope and structure. Before installing a unit, please consult the architect or structural engineer to determine if additional bracing is necessary. The device should be installed per manufacture's instructions and flashed properly. Any condensate drains should extend out 4" from the wall, and angle down.

BUTTING TO MORTAR OR MASONRY

James Hardie® siding and trim products should not be butted directly against mortar or masonry, including stone, brick, or concrete block. In these situations, a flashing should be installed to isolate the trim or siding from the mortar or masonry.

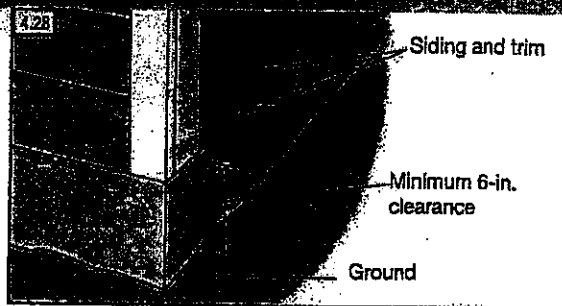


CLEARANCES

James Hardie specifies clearances to ensure the long-term durability of their products and the buildings on which they are installed. Failure to provide the proper clearances, as specified below, may affect performance of the building system, violate building codes or James Hardie requirements, and may void any warranty on the products.

SIDING TO GROUND CLEARANCE

James Hardie products must be installed with a minimum of 6-in. clearance to the ground on the exterior of the building. Clearances greater than 6-in. may be required in accordance with local building codes. Foundations are typically required to extend above the adjacent finished grade a minimum of 6-in. or as required by local building codes.

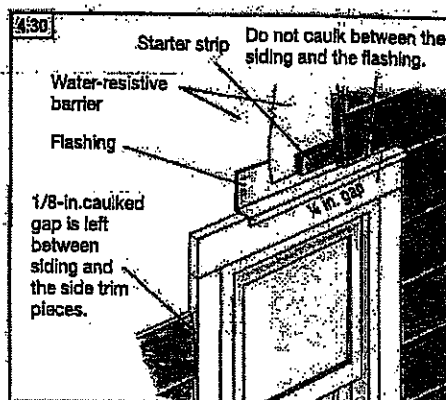
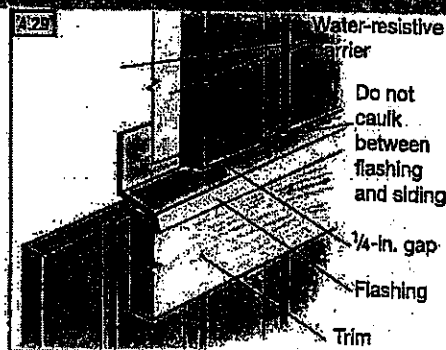


IBC Code Reference: "1803.3 Site grading. The ground immediately adjacent to the foundation shall be sloped away from the building at a slope of not less than one unit vertical in 20 units horizontal (5-percent slope) for a minimum distance of 10 feet (3048 mm) measured perpendicular to the face of the wall..."

SIDING TO FLASHING CLEARANCE

A 1/4-in. clearance must be maintained between James Hardie® siding and trim products and any horizontal flashing.

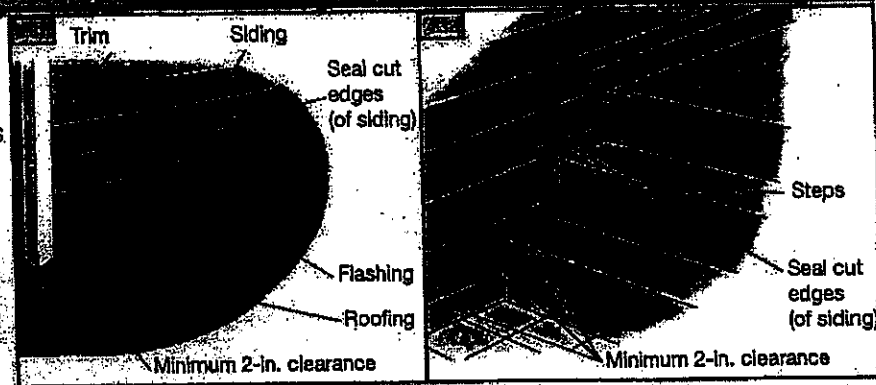
All horizontal flashing should be installed with a positive slope in such a way that it promotes proper drainage and does not allow moisture to pool on top of the flashing.



General Installation Requirements (continued)

SIDING AND TRIM TO SOLID SURFACES

A clearance of 2 in. must be maintained between James Hardie siding and trim products where they meet roofs, decks, paths, steps, driveways or any other solid surfaces.

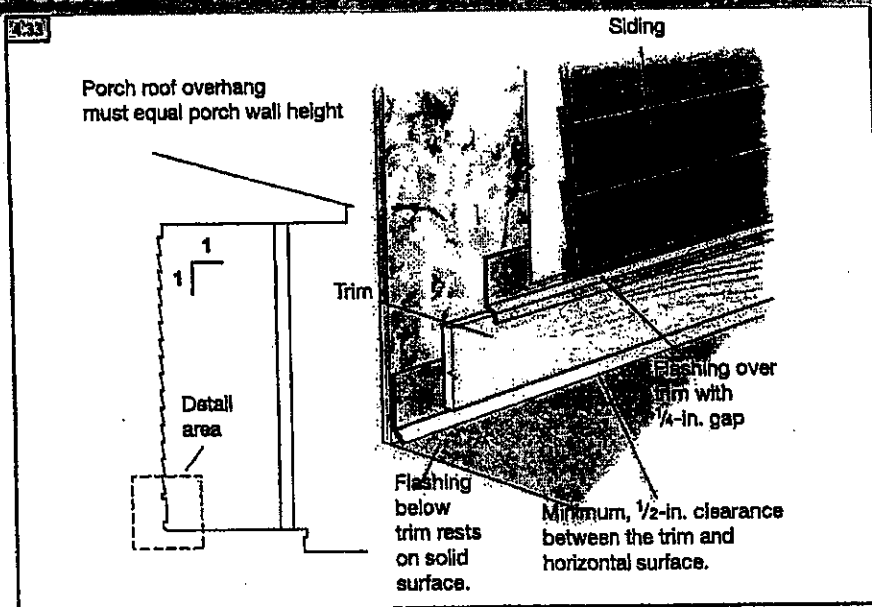


IBC Code Reference: "1503.2.1 Locations. Flashing shall be installed at wall and roof intersections, at gutters, wherever there is a change in roof slope or direction and around roof openings..."

IRC Code Reference: "905.2.8.3 Sidewall flashing. Base flashing shall be continuous or step flashing shall be a minimum of 4" in height and 4" in width

CLEARANCES FOR SHELTERED AREAS

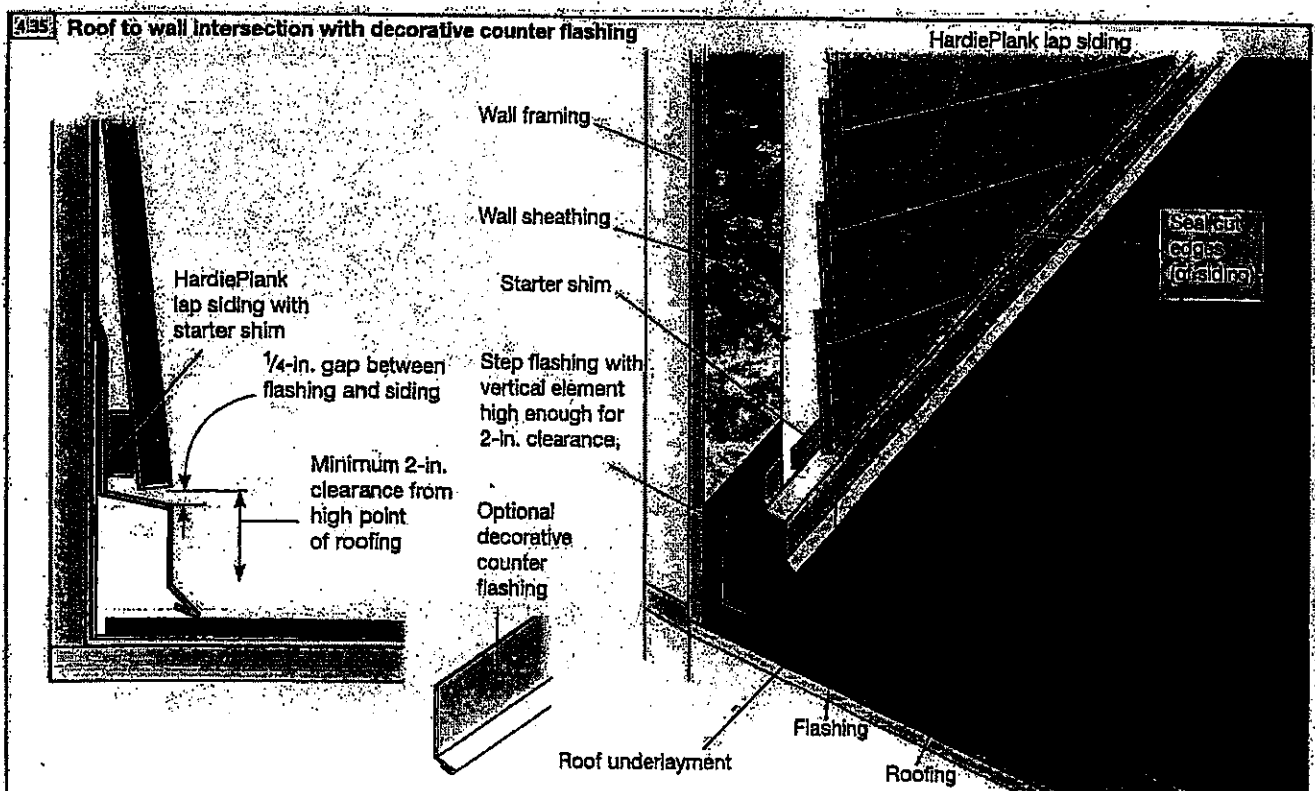
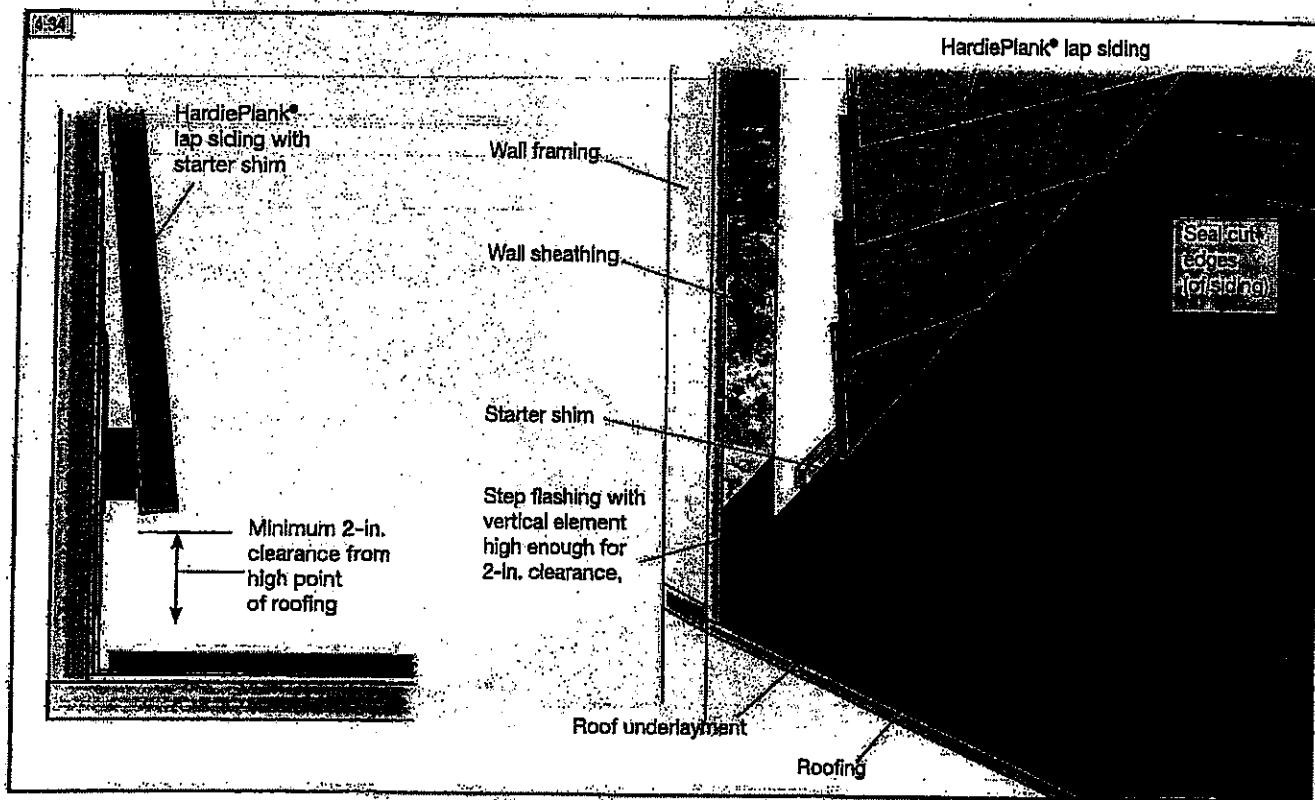
Porches or other structures that maintain a minimum 1:1 ratio of the wall height to the overhang length provide extra protection, which keeps rain and other weather elements away from the siding. These areas may be designated as Sheltered Areas. In these areas, a minimum 1/2-in. clearance is required with appropriate flashing between the bottom of James Hardie trim or siding and solid horizontal surfaces.



WARNING

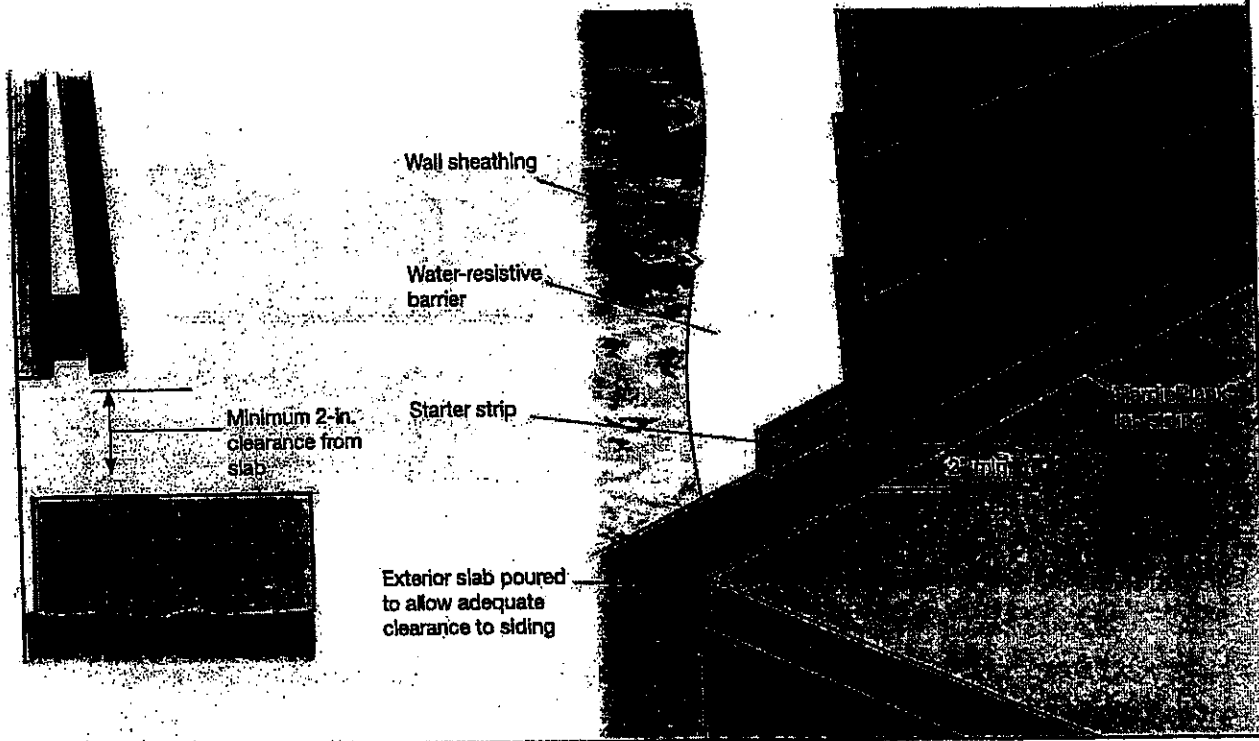
James Hardie siding and trim products must not be installed such that they remain in contact with standing water.

Here are examples of details that can help improve the aesthetics of clearance requirements. Check with a design professional and local building officials to ensure that the chosen details are correct for their intended purpose and location.

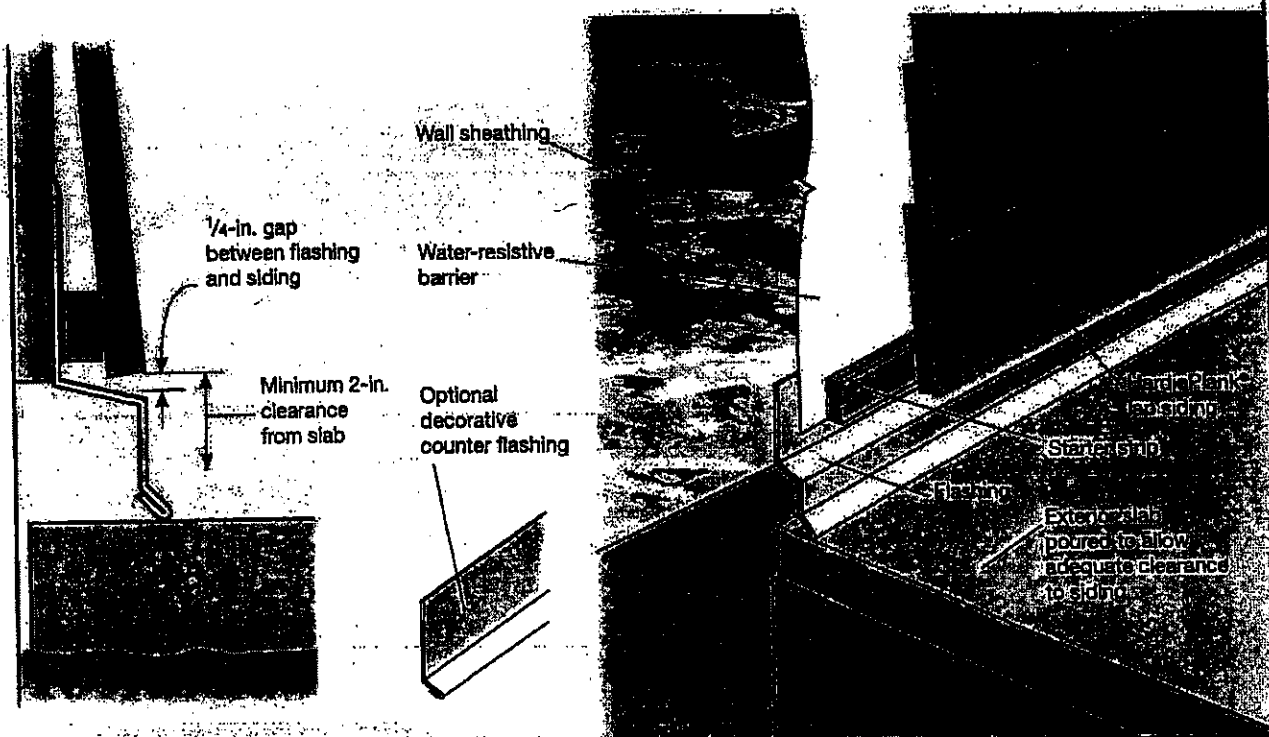


General Installation Requirements (continued)

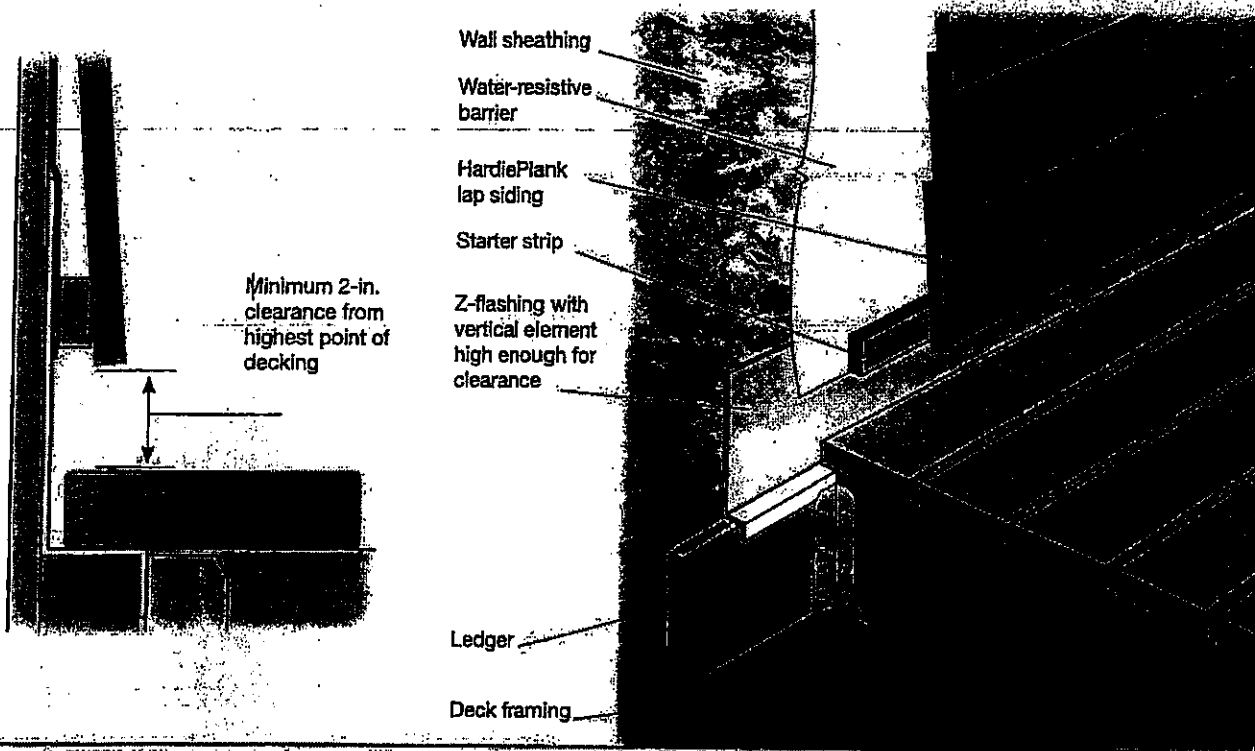
436 Wall to exterior slab intersection without decorative counter flashing



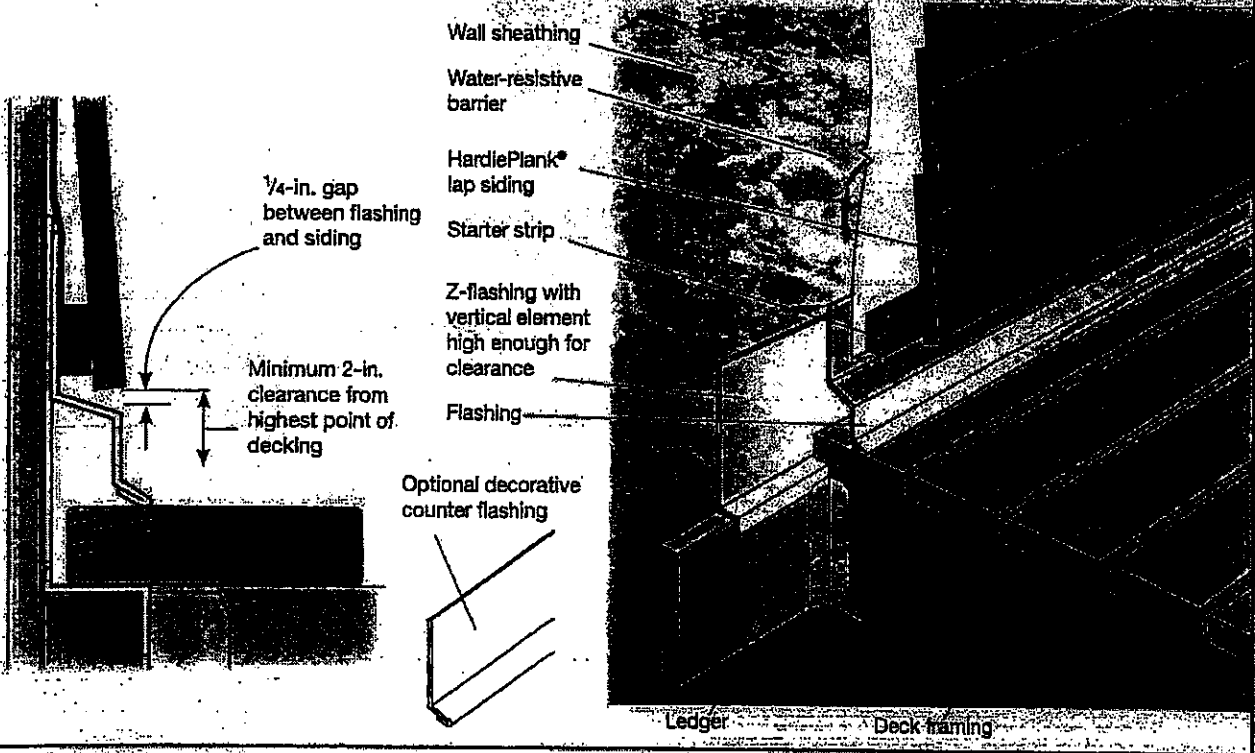
437 Wall to exterior slab intersection with decorative counter flashing



4:38 Wall to deck intersection without decorative counter flashing

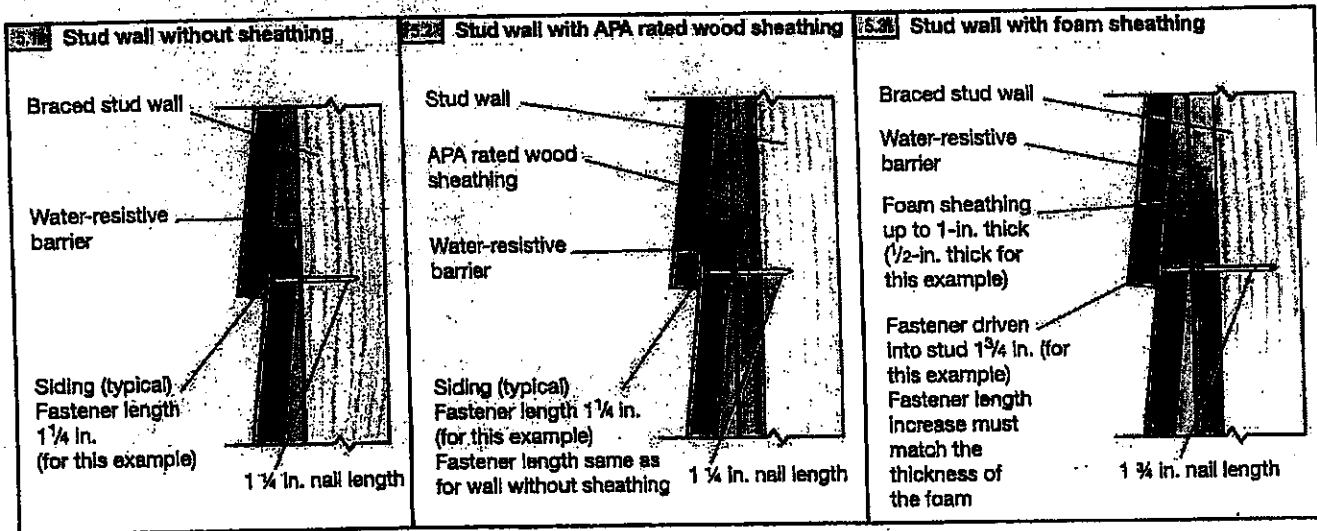


4:39 Wall to deck intersection with decorative counter flashing



General Fastener Requirements

Each product section of the James Hardie Installation Guide contains fastener requirements for that specific product. In general if siding is to be installed over a non-structural sheathing such as foam, gypsum, or builder board, increase the length of the fastener by the thickness of the non-structural sheathing. For example, if a 1 1/4-in. fastener would normally be required for an application, but the siding is being installed over 1/2-in. foam sheathing, increase the fastener length by 1/2-in. to a 1 3/4 fastener length. For siding installation over a framed wall with structural sheathing such as plywood or OSB, the fastener length does not need to be increased.



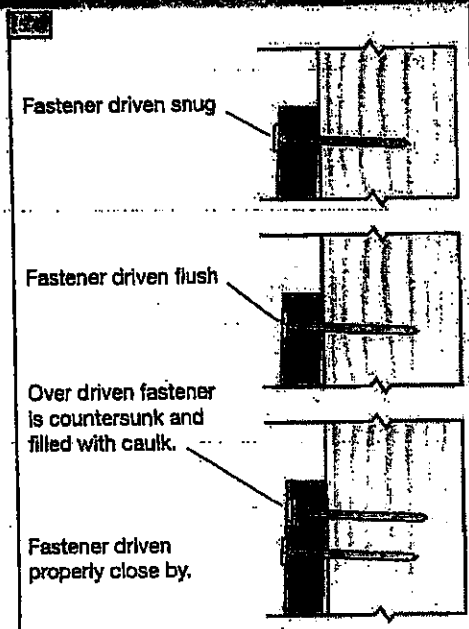
PNEUMATIC FASTENING

James Hardie® siding and trim products can be hand-nailed or fastened pneumatically. However, fastening with a pneumatic nailer is recommended for speed and consistency. Nails should be driven snug or flush with the surface of the siding.

For pneumatic nailing, set the air pressure so that the nails are driven to the proper depth. A flush mount attachment on the head of the nailer is recommended. If setting the nail depth proves difficult, choose a setting that slightly under-drives the nails. Then drive any under-driven nails snug to the surface with a smooth-faced hammer.

If nails are driven too deep, countersink them with a nail set, fill the space above the nail head with caulk, and drive another nail near by to the proper depth. Never use staples to attach James Hardie products.

TIP: Stainless steel fasteners are recommended when installing James Hardie products.



Finishing

Product
Information

Safety

Cutting and
Finishing

Installation
Requirements

Finishing
Requirements

Maintenance

Weather Barrier
Boards/Sheets

Trim

Paints

Trim
Lap Siding

HardieShingle®
Siding

HardiePanel®
Vertical Siding

Appearance
Glossary

ESP-184 &
2250 Report

FINISHING JAMES HARDIE SIDING AND TRIM PRODUCTS

For best results when painting factory-primed James Hardie® siding and trim products, use high-quality exterior-grade acrylic topcoats. For best results with unprimed James Hardie siding and trim products, prime first with exterior-grade acrylic primer, and then finish with high-quality exterior-grade acrylic topcoats. Two finish-coats of paint are recommended.

Use primers and topcoats that are designed and recommended for cement-based building materials such as fiber-cement, masonry, brick or stucco.

⚠ WARNING

• Finish factory-primed James Hardie siding and trim products within 90 days of installation. Finish unprimed James Hardie siding products within 90 days of installation.

• The use of oil-based paints on unprimed fiber cement could result in increased surface roughness, loss of adhesion, cracking or excessive chalking.

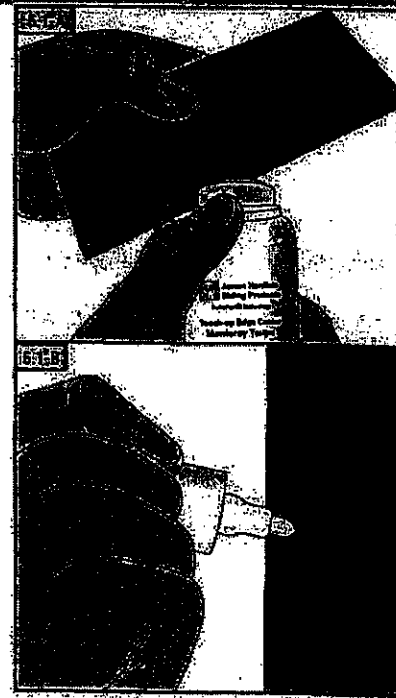
- Do not use stain on James Hardie products.
- Never apply paint to saturated products.

COLORPLUS® TOUCH-UP

Nicks, scrapes and nail holes may occur during the installation of James Hardie siding and trim products with ColorPlus® Technology. Touch-up pens and edge coaters with matching colors are available at ColorPlus product dealers.

James Hardie ColorPlus® Touch-up pens shall be used sparingly. If any area larger than a dime requires touch-up, replace the damaged siding with a new section of ColorPlus plank or panel.

Edge coating is required for any cuts made in ColorPlus products. Edge coating seals the cut edges of the board as well as making joints and seams in the boards less visible. ColorPlus edge finishes shall be applied with the James Hardie Edge Coater.



Note: Edge Coaters or Touch-up Pens should not be used to touch-up areas that are larger than a dime.

Note: James Hardie (JH) does not approve caulk (including JH Color matched caulk), other caulking or cementitious patching compounds to touch up nail heads, nail holes, dents, cracks or other minor surface blemishes on JH ColorPlus products.

⚠ WARNING

Do not allow ColorPlus touch-up to freeze. Apply touch-up when temperature of the air and

Finishing (continued)

COLORPLUS PRODUCTS WITH PROTECTIVE LAMINATE SHEET

When installing HardieTrim® 5/4, 4/4 boards with ColorPlus® Technology, leave the protective laminate sheet on the board during cutting and installation. To install HardieTrim 5/4, 4/4 boards with ColorPlus® Technology, first fasten the trim using a finish nailer with the nails driven through the laminate sheet. Using a touch-up pen that matches the color of the trim, cover up the nail heads through the laminate sheet at the point of entry. After the nailing and touch-up are complete, remove the protective laminate sheet.



When installing other products such as HardiePlank® Lap Siding and HardiePanel® Vertical Siding with ColorPlus® Technology, leave the protective laminate sheet on the board during cutting and installation. Once the product is installed the laminate sheet should be removed.

TIP: As with any pre-finished building product, care should be taken when handling and cutting James Hardie ColorPlus products. At the job-site use a soft cloth to gently wipe any residue or construction dust left on the product.

CAULK

James Hardie recommends the use of caulks and sealants that remain permanently flexible. Look for the words "permanently flexible" written clearly on the label or in the accompanying literature.

For best results, use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher, or a Latex Joint Sealant complying with ASTM C834. Caulking/sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions.

James Hardie does not warrant and does not accept liability for the appearance or the performance of field-applied caulks and sealants.

REPAIR/PATCHING

Dent, chips, cracks and other minor surface damage in James Hardie primed siding and trim products can be filled with cementitious patching compound except on ColorPlus. When repairing holes of less than 1" that has been created by scaffold anchors, pipe, etc. James Hardie recommends a backer rod be placed into hole and sealed to prevent water infiltration. James Hardie will assume no responsibility for water infiltration.

BACK PRIMING/BACK SEALING

James Hardie does not require any of its siding products to be back sealed or back primed prior to installation in the field.

MAINTENANCE

Always follow the instructions and precautions as outlined in the James Hardie® ColorPlus® Technology literature that was supplied with the product and the information that is available on the James Hardie® website (www.jameshardie.com). Never use a high pressure power washer or high pressure nozzles on James Hardie ColorPlus products.

The extent and nature of the maintenance will depend on the geographical location and exposure of the building. Cleaning, as need, is recommended to remove a dirt, debris and chalk that may build up on the finish over time.

The following procedure can be used to clean dirt, debris and chalk from the siding. Always wear appropriate protective gloves and eyewear and shield any landscaping or vegetation.

Supplies needed

- Soft poly fiber bristle brush
 - Siding flow-thru brush with soft 2 inch poly fiber bristles such as a Quickie® Professional siding brush is recommended
- Extension pole
- Garden hose (when rinsing, use a gentle low pressure fan spray, Never use a high pressure power washer or a high pressure nozzle)
- Mild liquid washing soap (do not use a harsh cleaning chemicals)
 - Brands such as Dawn, Ivory, o Joy are recommended
- Bucket

Make a soapy water solution by adding 1/8 oz. of soap per gallon of water. Working a small section at a time; start from the bottom and work your way up to prevent streaking.

Rinse the siding with the garden hose using a low pressure spray. Keeping the siding wet, begin to gently clean the siding with the brush and mild soapy water in a side to side motion in the direction of the siding. Do not allow the soap to dry on the siding. Rinse thoroughly with clean water, rinsing the soap all the way down to the bottom of the house. Any areas that have been missed will show up when the siding has dried. Spot clean and rinse the missed areas as needed.

If your surface still looks dirty after washing, the problem may be mildew. Mildew discoloration can resemble dirt. Moisture is the most important single factor in the growth of mildew, which can lie dormant for years. For this reason, mildew discoloration is usually found in damp, dark areas or during prolonged humid conditions.

The following mildew cleaners can be used to clean mildew that has built up on the siding finish. Follow all instructions and precautions that are outlined on the label and wear all protective equipment that is prescribed. Never use a high pressure power washer or high pressure nozzles on James Hardie ColorPlus products.

Mildew Cleaners

- Jomax®
- Mildew Check®
- Mold Armo®

Care must be taken not to use harsh or harmful chemicals that can damage the finish on the siding.

WARNING

High pressure water blast and sand blasting may damage the surface of fiber cement. James Hardie does not recommend these methods of cleaning. Low pressure water spray and a medium bristle (not metal) brush are more suitable for cleaning fiber cement products. Acid washing can damage the fiber cement surface and is not recommended.

Note: If a pressure washer is to be used, use wide fan tips only at low pressures under 1,500 psi and at safe distances. Keep fan nozzle no closer than 6' to wall. Exercise extreme caution. Improper use could lead to damage of the surface and in-turn, a loss of warranty coverage.

HardieWrap

HardieWrap® Product Description

HARDIEWRAP® WEATHER BARRIER

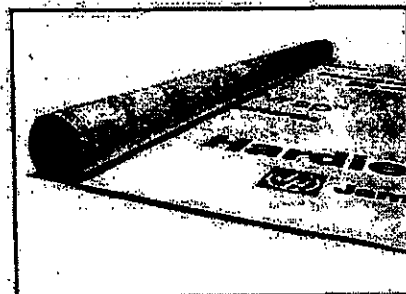
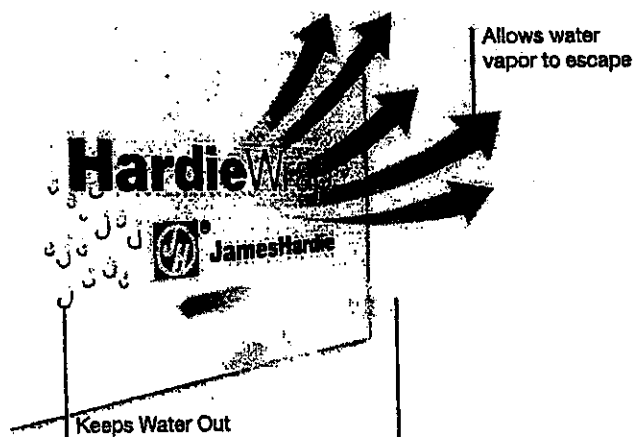
HardieWrap® weather barrier is a non-woven, non-perforated polyolefin water-resistive barrier, as per AC38. HardieWrap weather barrier provides a balance of water resistance and breathability to protect homes from the elements of weather that can get behind the exterior cladding. HardieWrap® Flashing and HardieWrap® Seam Tape are recommended in conjunction with HardieWrap weather barrier to complete the HardieWrap weather barrier solution.

HARDIEWRAP® PRO-FLASHING AND FLEX FLASHING

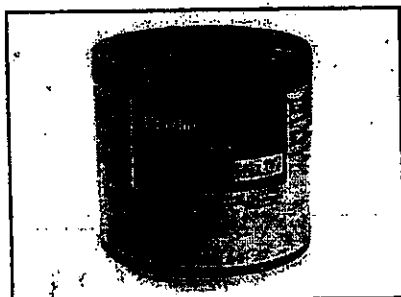
HardieWrap® Pro-Flashing and HardieWrap® Flex Flashing are high-performance, self-adhering, self-sealing, butyl material on tear-resistant top sheets that are applied around windows and doors to manage water and air intrusion. HardieWrap® Pro-Flashing has a release liner for peel-and-stick installation and has no asphalt, VOCs or solvents.

HardieWrap® Flex Flashing is designed to easily stretch and seal around doors and windows, as well as custom shapes to protect against water intrusion, and is supplied in a convenient dispenser box.

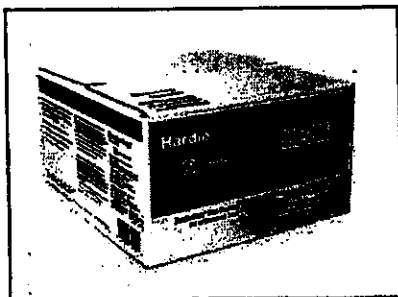
Together with HardieWrap weather barrier and HardieWrap® Seam Tape, HardieWrap Pro-Flashing and HardieWrap Flex Flashing provide the James Hardie® weather barrier solution to manage water drainage, and prevent water damage and energy loss.



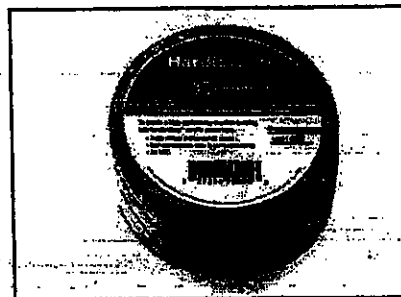
HardieWrap® Weather Barrier



HardieWrap® Pro-Flashing



HardieWrap® Flex Flashing



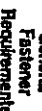
HardieWrap® Seam Tape

Product Information

Safely

Cutting and Fashioning

- ### Installation Requirements



Mathematics

Weather Barriers

Boards/Batteries

PARADISE Parcels

Marathon Lap Sticking

Hardy Shing Siding

Hardopanel Vertical Slider

Appendix Glossary

ESP-1843 E
2280 Report

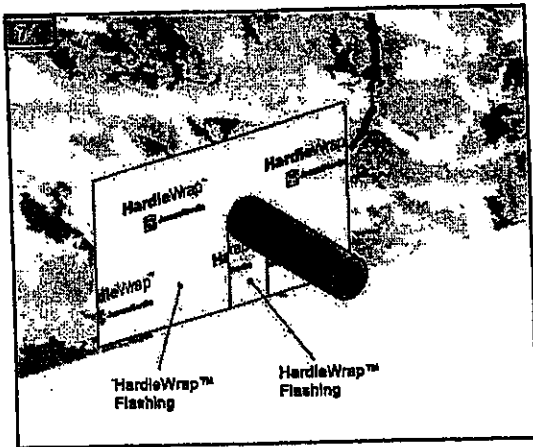
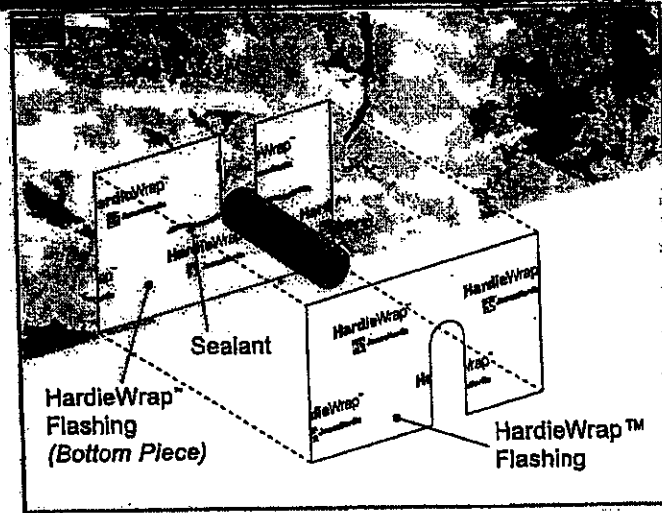
TIP: *Wardle Wrap® weather barriers cut's best with a sharp utility knife. It's best to install with two people. One person unrolling, and the other person fastening and assuring product is flat.*

Installation of HardieWrap® Weather Barrier (continued)

HARDIEWRAP® FLASHING GUIDE FOR TYPICAL PENETRATION

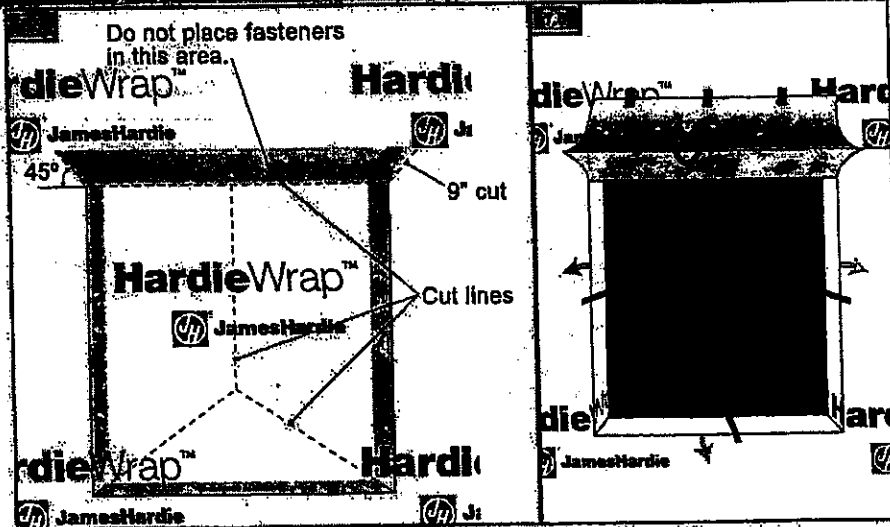
For rough electrical or plumbing penetrations, seal with flashing. Install the top piece over the bottom piece. HardieWrap® Pro-Flashing can be used for this application.

Make sure all penetrations are taped to shed water and prevent air infiltration.



HARDIEWRAP® PRO-FLASHING GUIDE FOR WINDOWS

Use the inverted "Y" cut at rough window and door openings. Do not place fasteners within 9" of the rough opening, door or window heads. This area should not be fastened to allow for proper flashing installation. At the top corners of the rough opening, cut the weather barrier at 45° to extend 9" past the joint. Fold the top flap up and out of the way and fasten temporarily and fold the remaining three flaps in through the opening, fastening them inside with staples.



HardieWrap® Flex Flashing should be applied over the water-resistive barrier after it has been cut and set into and around the window rough opening. Refer to installation of HardieWrap® Pro-Flashing and Flex Flashing for flashing guidelines.

Installation of HardieWrap® Pro-Flashing & Flex Flashing

STORAGE

For optimal performance, store in original sealed packaging at temperatures of 5° - 32°C (41° - 90°F) while at moisture-free conditions. James Hardie requires that HardieWrap® Flashing and HardieWrap® Flex Flashing be covered within 180 days of installation.

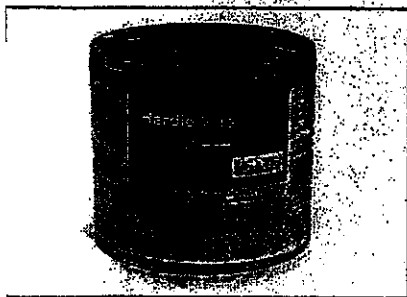
IMPORTANT TO NOTE

This recommendation refers to the most commonly used types of windows (surface-mounted). For other types of frames, special attention should be paid to the window manufacturer's instructions.

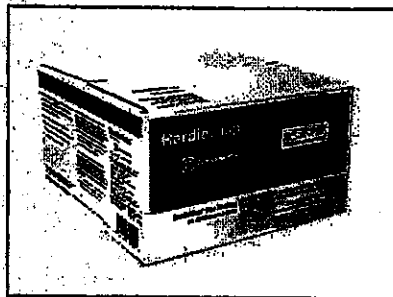
Check your local building code for construction requirements and follow the manufacturer's recommended installation instructions; or utilize standard practices for the installation of exterior windows and doors as referenced in ASTM E2112-01 or AAMA 2400-2 (CAWM 400-95). Consult with the architect or specifier regarding the methods to be utilized.

GENERAL REQUIREMENT

The installation guidelines herein are informational in nature only and may not be appropriate for use in all applications. It is the sole responsibility of the architect or specifier to identify moisture-related risks associated with any particular building design, and to make any appropriate adjustments or modifications to the installation guidelines herein. Wall-construction design must effectively manage moisture, considering both the interior and exterior environment of the building, particularly in buildings that have a higher risk of wind-driven rain penetration and conditioned spaces. Wall openings, penetrations, junctions, connections, window sills, headers and jambs must incorporate appropriately installed HardieWrap® Pro-Flashing and HardieWrap® Flex Flashing, or other flashing or flashing details, as recommended by the manufacturer, architect or specifier.



HardieWrap® Pro-Flashing



HardieWrap® Flex Flashing



HardieWrap® Seam Tape

Product
Information

Safety

Cutting and
Flashing

Installation
Requirements

Fastener
Requirements

Maintenance

Weather Barrier

Board/Battens

Panel

Lap Sliding

Flashing/Seam
Sliding

Flashing/Seam
Vertical Sliding

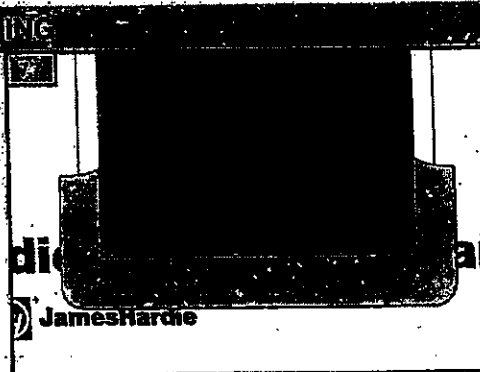
Flashing/Seam
Glossary

ESR-1194 &
2250 Report

Installation of HardieWrap® Pro-Flashing & Flex Flashing (continued)

HARDIEWRAP® FLEX FLASHING STRETCHABLE SILL FLASHING

Prepare sill flashing by cutting HardieWrap® Flex Flashing at least 12" longer than the width of the rough opening. Install sill flashing by removing the release paper, centering sill flashing on sill framing stud and adhering into rough opening. The back edge of HardieWrap® Flex Flashing should extend to the inside edge of the sill framing stud and at least 6" up each jamb framing stud. (Note: Sill flashing should not wrap onto the inside of the wall.) **DO NOT STRETCH MATERIAL ALONG THE SILL OF JAMB.** HardieWrap® Flex Flashing should be applied over the water-resistive barrier after it has been cut and set into and around the window rough opening.



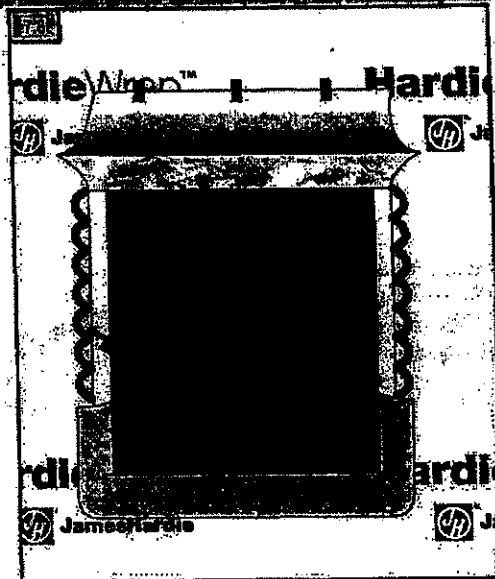
Note: If a water-resistive barrier is to be applied after the window and flashing have already been installed, be sure not to fasten the lower edge of the flashing so that the water-resistive barrier may be slipped underneath the flashing in weather-board or shingle-lap (top layer overlapping bottom layer) fashion.

WINDOW INSTALLATION

Before installing the window:

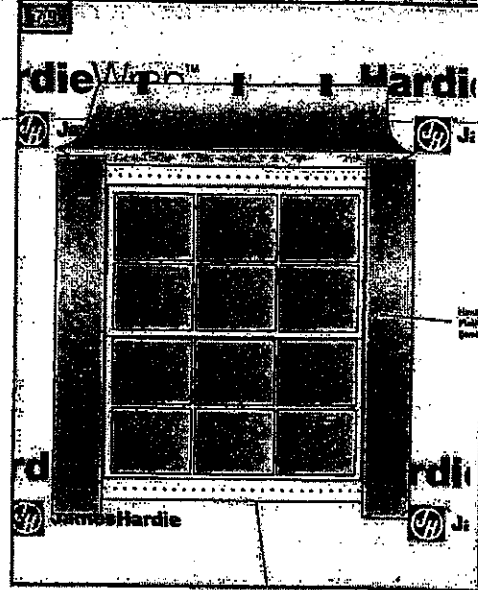
- Apply a continuous bead of sealant to the backside (interior) of the window's mounting flange on the outer edge; or
- Apply a continuous seal to the rough opening to ensure contact with the backside (interior) of the window's mounting flange (do not caulk along bottom).

Install window according to the manufacturer's installation procedures.



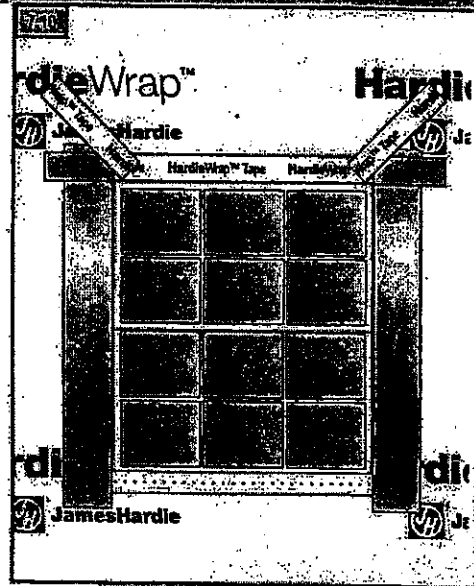
SIDE JAMB FLASHING

Apply HardieWrap® Flashing along the vertical sides of the opening. Flash over the side window mounting flanges. Extend the flashing by a minimum of 3" beyond the sill flashing (HardieWrap® Flex Flashing) already in place and extend the flashing to a minimum of 3" beyond the top of the opening, so that it projects beyond the head flashing that is to be applied later.



HEAD FLASHING

Affix HardieWrap® Flashing over the window's mounting flange along the header opening. Be sure to extend the flashing beyond each jamb flashing by 3". Secure flashing in place by applying pressure. Detach weather barrier flap (top) and apply over head flashing as shown. Tape all seams and joints.

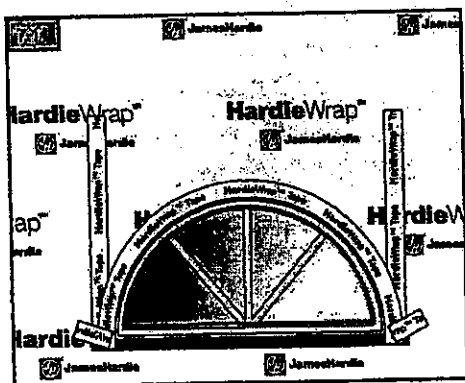


Installation of HardieWrap® Pro-Flashing & Flex Flashing (continued)

CIRCULAR WINDOWS

Install circular top windows according to window manufacturer's installation guidelines, and then follow instructions as illustrated in figures 8–11 to complete the process.

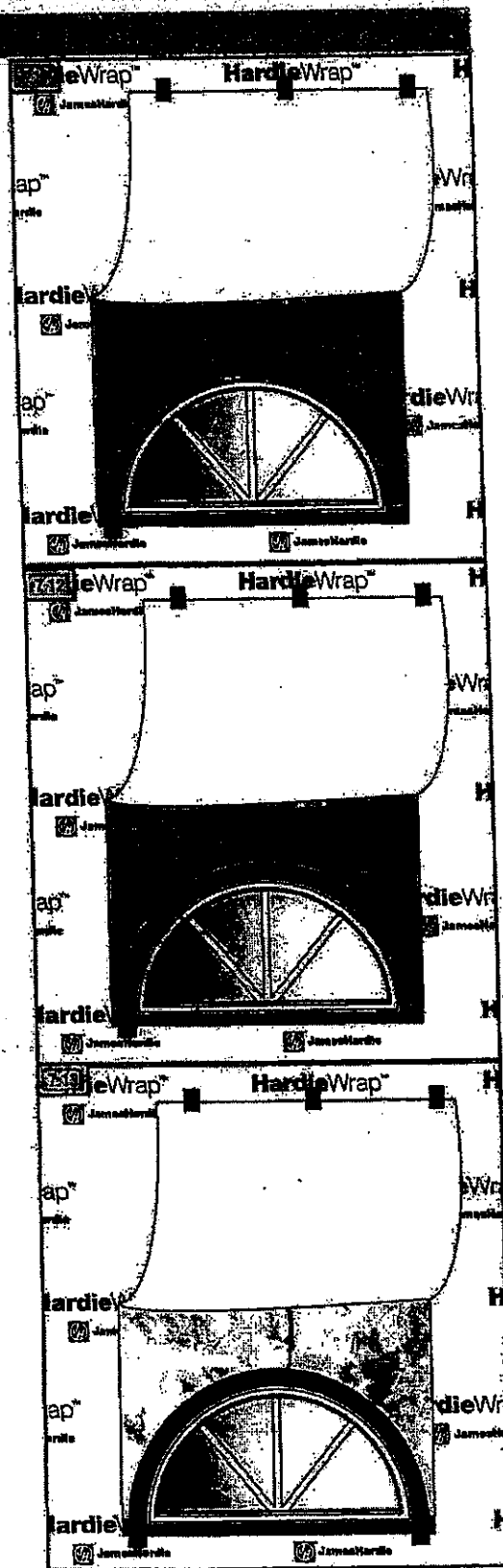
- 1) Measure the circular portion of the window and add 12" to this number. Cut HardieWrap® Flex Flashing to this length for the head flashing.
- 2) Remove approximately 20" of release paper and position HardieWrap® Flex Flashing tightly along the first edge of the round window. Press firmly into place (figs. 8 and 9).
- 3) Continue removing release paper and conform HardieWrap® Flex Flashing to entire circular portion of the window (fig. 10).
- 4) Use HardieWrap® Seam Tape or mechanical fasteners (i.e., nails, staples or screws) to temporarily hold top edge of head flashing to the wall.
- 5) HardieWrap® Flex Flashing adhesive bond will strengthen over time. Both ends of the head flashing should overlap the sill flashings by at least 6".



IMPORTANT TO NOTE

These recommendations refer to the most commonly used types of windows (surface-mounted). For other types of frames, special attention should be paid to the window manufacturer's instructions.

A spray adhesive, such as Nashua 357, is recommended when HardieWrap® Flex Flashing is applied directly to Oriented Strand Board (OSB) or other surfaces where additional adhesion is needed or required.



HardieTrim® NT3® **HL5**

4/4 & 5/4 Boards with Back Grooves

INSTALLATION REQUIREMENTS - PRIMED & COLORPLUS® PRODUCTS




EFFECTIVE NOVEMBER 2012

Visit www.jameshardie.com for the most recent version.

IMPORTANT: FAILURE TO INSTALL AND FINISH THIS PRODUCT IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND JAMES HARDIE WRITTEN APPLICATION INSTRUCTIONS MAY LEAD TO PERSONAL INJURY, AFFECT SYSTEM PERFORMANCE, VIOLATE LOCAL BUILDING CODES, AND VOID THE PRODUCT ONLY WARRANTY. BEFORE INSTALLATION, CONFIRM THAT YOU ARE USING THE CORRECT HARDIEZONE INSTRUCTIONS.

TO DETERMINE WHICH HARDIEZONE APPLIES TO YOUR LOCATION, VISIT WWW.HARDIEZONE.COM OR CALL 1-866-942-7343 (866 9HARDIE)

STORAGE & HANDLING:		⚠ CUTTING INSTRUCTIONS	
<p>Store flat and keep dry and covered prior to installation. Installing siding wet or saturated may result in shrinkage at butt joints. Carry planks on edge. Protect edges and corners from breakage. James Hardie is not responsible for damage caused by improper storage and handling of the product.</p> 	OUTDOORS		INDOORS
	<p>1. Position cutting station so that wind will blow dust away from user and others in working area.</p> <p>2. Use one of the following methods:</p> <p>b. Better: 1. Dust reducing circular saw equipped with a HardieBlade® saw blade and HEPA vacuum extraction</p> <p>c. Good: 1. Dust reducing circular saw with a HardieBlade saw blade (only use for low to moderate cutting)</p>		<ul style="list-style-type: none">- NEVER use a power saw indoors- NEVER use a circular saw blade that does not carry the HardieBlade saw blade trademark- NEVER dry sweep -- Use wet suppression or HEPA Vacuum- Important Note: For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best" level cutting methods where feasible.
	<p>NIOSH-approved respirators can be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at www.jameshardie.com to help you determine the most appropriate cutting method for your job requirements. If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.</p> <p>5000105</p>		

INSTALLATION

Fastener Requirements

For Corners, Band Boards, Windows, and Door Applications:

HardieTrim NT3 boards with back grooves are installed with HardieTrim™ Flat Tabs (JH sku no. 280154) and HardieTrim™ Corner Tabs (JH sku no. 280155) which provide concealed fastening. Only HardieTrim Flat and Corner Tabs can be used with HardieTrim NT3 boards to create a concealed fastening.

Step 1: Attach HardieTrim Flat Tabs to the back side of the trim using four(4) 18 ga. 1/2" L x 1/4" W narrow crown corrosion resistant staples, equally spaced in one row, positioned no closer than 1/2" from trim edges using a pneumatic staple gun. (Figure 1)

Step 2: For wood frame construction, attach the trim to the building with minimum 2, 6d siding nails fastener through the HardieTrim Flat Tabs (Figures 2 & 3). ET&F or equivalent fasteners may be used to attach the HardieTrim Flat Tabs to steel frame construction. (Figures 2 & 3)

Fastener spacing will vary based on application. Refer to fastener table on page 4. Refer to specific sections in these instructions for required fastener spacing by application (window, band board, etc.)

HardieTrim® NT3 boards can also be installed in a more traditional fashion with finish nails. Use minimum 16 ga. 2" galvanized finish nails spaced at 16" o.c. to attach the trim.

For Fascia, Rake, and Frieze board Applications:

For fascia, rake, and frieze board applications, use minimum 16 ga. 2" galvanized finish nails to attach the HardieTrim NT3™ boards. Position finish nails no closer than 1/2" from the edges and no closer than 1" from the ends of the trim. Fasteners may be spaced at a maximum of 16" o.c. Ensure trim is adequately fastened.

Installation of HardieTrim tabs in Coastal Regions:

James Hardie requires that stainless steel staples & fasteners be used when installing HardieTrim Tabs in coastal regions.

Installation of HardieTrim Tabs over Pressure Treated Lumber:

HardieTrim tabs shall not come in direct contact with ACQ or CA preservative-treated wood. Refer to the General Fastening section of this document for further information.

HardieTrim NT3 boards with ColorPlus® Technology: Remove the laminate sheet as soon as possible after attaching the trim to the building.

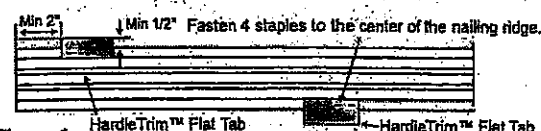


Figure 1

For additional information on HardieWrap® Weather Barrier, consult James Hardie at 1-866-4HARDIE or www.hardiewrap.com

WARNING: AVOID BREATHING SILICA DUST

James Hardie® products contain respirable crystalline silica, which is known to the State of California to cause cancer and is considered by IARC and NIOSH to be a cause of cancer from some occupational sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) use fiber cement shears for cutting or, where not feasible, use a HardieBlade® saw blade and dust-reducing circular saw attached to a HEPA vacuum; (3) warn others in the immediate area; (4) wear a properly-fitted, NIOSH-approved dust mask or respirator (e.g. N-95) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods - never dry sweep. For further information, refer to our installation instructions and Material Safety Data Sheet available at www.jameshardie.com or by calling 1-800-9HARDIE (1-800-942-7343). FAILURE TO ADHERE TO OUR WARNINGS, MSDS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH. 5000105

HardieTrim® NT3™ board is a decorative non-load bearing trim product.

GENERAL REQUIREMENTS:

- Wood or steel backing must be provided for attaching HardieTrim® NT3™ boards and the HardieTrim™ Flat Tabs. Additional framing may be required to ensure the HardieTrim™ Flat and Corner Tabs are fastened properly to the structure. Special attention should be paid to the framing when using a sheathing that does not have fastener holding equivalent to OSB or Plywood sheathing.
- A water-resistive barrier is required in accordance with local building code requirements. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements. James Hardie will assume no responsibility for water infiltration. James Hardie does manufacture HardieWrap® Weather Barrier, a non-woven non-perforated housewrap, which complies with building code requirements.
- Adjacent finished grade must slope away from the building in accordance with local building codes - typically a minimum of 6" in the first 10'.
- Flashing is required over horizontal protruding and exposed trim.
- Do not install James Hardie® products such that they may remain in contact with standing water.
- DO NOT use stain on James Hardie products.
- DO NOT install HardieTrim over any lapped siding products.

Figure 3

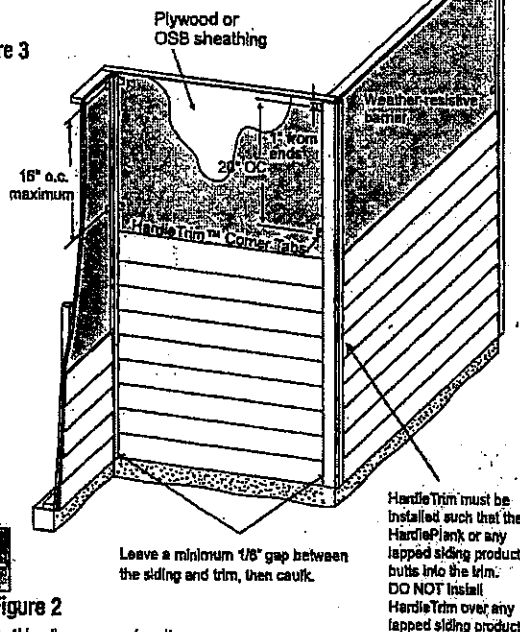


Figure 2

TRIMMING CORNERS

HardieTrim® NT3™ boards with back grooves are installed around corners by pre-building the corner off the wall with the HardieTrim™ Corner Tabs (JH sku no. 280155).

- Attach HardieTrim Corner Tabs to the back side of the trim using eight(8) - 18 ga. 1/2"L x 1/4"W narrow crown corrosion resistant staples using a pneumatic stapler. Ensure the HardieTrim Corner Tabs are fastened tight and straight to the trim boards. (Figure 4)
- For wood frame construction, attach trim to building using min. 6d siding nails fastened through the HardieTrim Corner Tabs attached to minimum 7/16" OSB *. (Figure 5)
- Attach a HardieTrim Corner Tab 1" from each ends and every 20" o.c.
- TIP: Creating a jig for the work station is recommended to ensure corners are fastened securely and straight. (Figure 7)

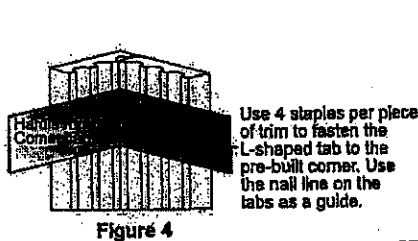


Figure 4

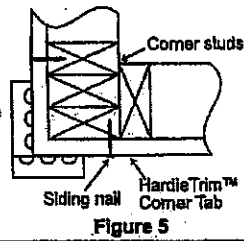


Figure 5

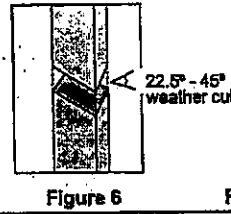


Figure 6

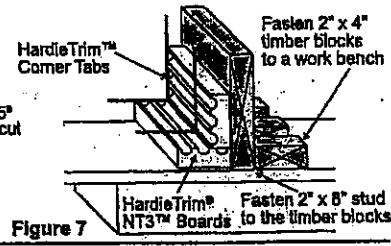


Figure 7

HardieTrim NT3™ boards with back grooves can also be installed directly to the building corners using minimum 16 ga. 2" galvanized finish nails 16" o.c.

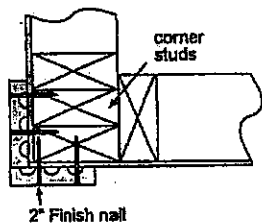


Figure 8

CLEARANCES When installing James Hardie® products, all clearance details need to be followed.

Install siding and trim products in compliance with local building code requirements for clearance between the bottom edge of the siding and the adjacent finished grade.

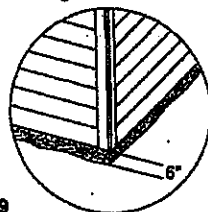


Figure 9

Maintain a minimum 2" clearance between James Hardie® trim products and decks, paths, steps and driveways.

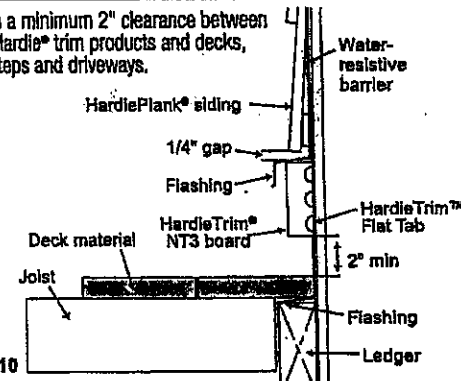


Figure 10

At the juncture of the roof and vertical surfaces, flashing and counterflashing shall be installed per the roofing manufacturer's instructions. Provide a 2" clearance between the roofing and the bottom edge of the trim.

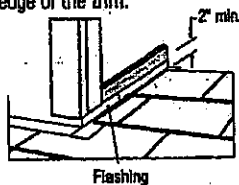


Figure 11

Maintain a 1/4" clearance between the bottom of James Hardie® products and horizontal flashing. Do not caulk gap.

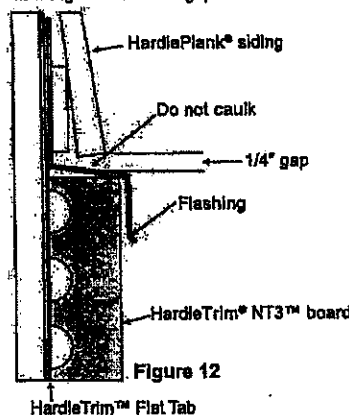


Figure 12

Maintain a minimum 1" gap between gutter end caps and siding & trim.

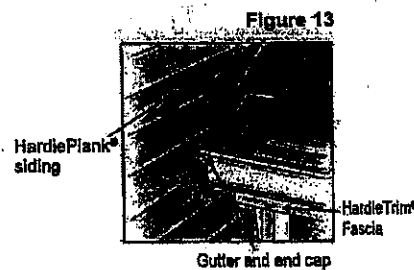


Figure 13

VALLEY FLASHING

The valley flashing must extend a minimum 2" past the HardieTrim® Fascia and 6" to either side. If the valley flashing has been cut flush with the roofing, an additional valley flashing extension must be installed. If rain gutter is present and roof shingles extend 1" past fascia, a valley flashing extension is not required.

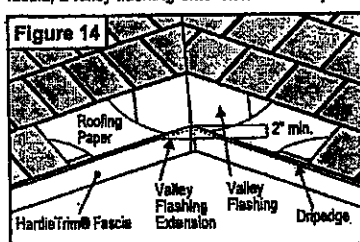
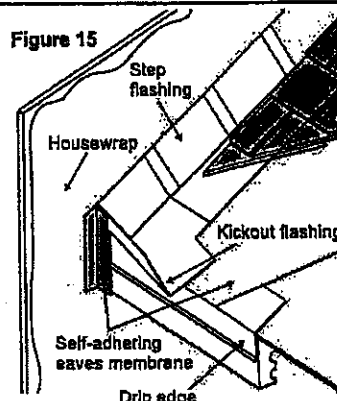


Figure 14

Figure 15



KICKOUT FLASHING

Because of the volume of water that can pour down a sloped roof, one of the most critical flashing details occurs where a roof intersects a sidewall. The roof must be flashed with step flashing. Where the roof terminates, install a Kickout to deflect water away from the siding.

It is best to install a self-adhering membrane on the wall before the subfascia and trim boards are nailed in place, and then come back to install the kickout.

Figure 15, Kickout Flashing To prevent water from dumping behind the siding and the end of the roof intersection, install a "kickout" as required by IRC code R905.2.6.3: "...flashing shall be a min. of 4" high and 4" wide." James Hardie recommends the kickout be angled between 100° - 110° to maximize water deflection

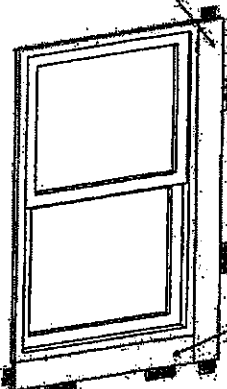
TRIM APPLICATION FOR WINDOWS, DOORS & OTHER OPENINGS

Trim the opening prior to the installation of the siding (Figure 16).

Place a Flat Tab at the end of each trim board and one tab every 16" OC. Attach the trim boards and Flat Tabs around the opening as shown in Figures 16 and 17. Use 16 ga. galvanized 2" long finish nails to ensure proper fastening if needed.

Figure 16

Side trim pieces go to the top of the window.

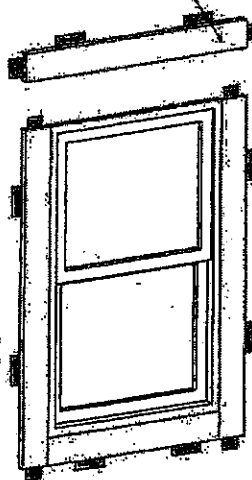


Bottom trim piece is the width of the window.

NOTE: Follow your window/door manufacturers installation instructions.

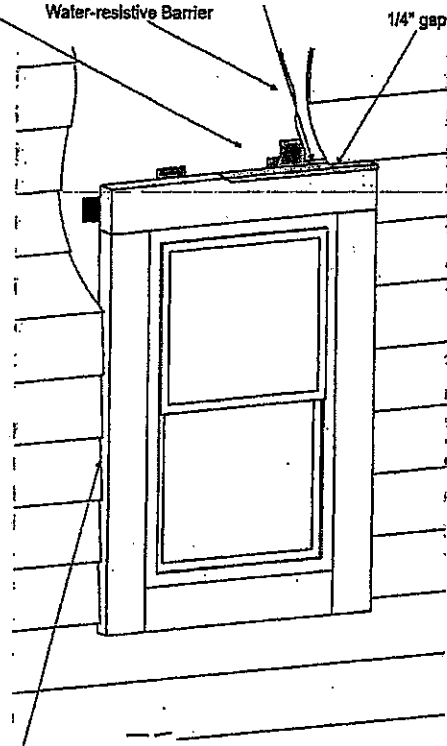
Figure 17

Header piece spans the window including the side trim pieces.



Flashing needs to be tucked under the water resistive barrier and over the Flat Tabs.

Do not caulk between the siding and the flashing.



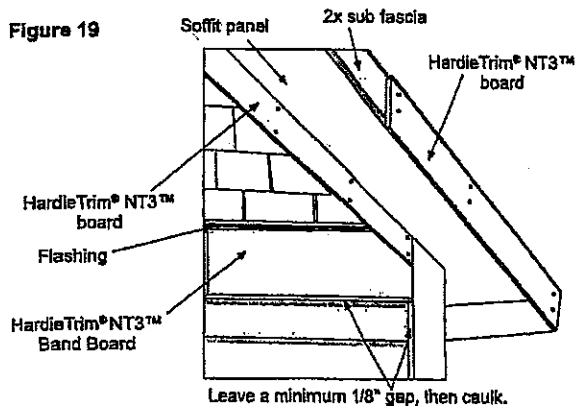
1/8" caulked gap is left between siding and the side trim pieces.

Figure 18

BAND BOARDS, FRIEZE BOARDS, RAKE TRIM & FASCIA

HardieTrim® NT3 boards may also be used as band boards, frieze boards, rake trim or fascia (Figure 19). Use 16 ga. galvanized 2" long finish nails to ensure proper fastening if needed.

Figure 19



Leave a minimum 1/8" gap, then caulk.

FRIEZE BOARDS

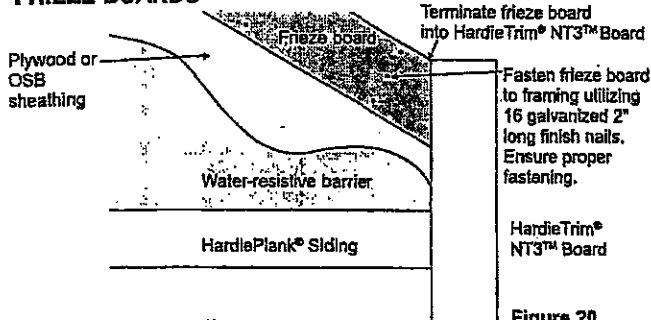


Figure 20

FASCIA & RAKE

For fascia and rake applications, a flashing is required over top of the fascia (Figure 21).

Figure 21

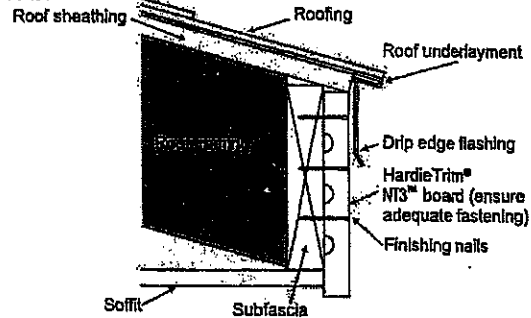
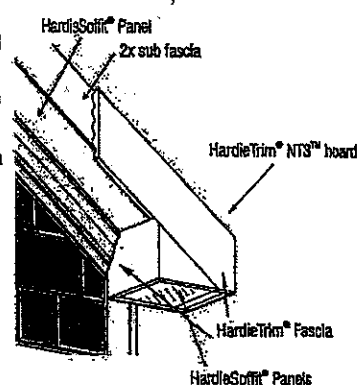


Figure 22
Birdhouse Detail

Ensure that all birdhouse trim is adequately fastened to a solid substrate.



BAND BOARD

A flashing is required over the trim and HardieTrim™ Flat Tabs. (Figure 23) Terminate ends of the Band Board into Trim or Siding or miter cut the edges of the trim at the corners of the building. Place a HardieTrim™ Flat Tab at the end of each trim board and one tab every stud at a maximum of 16" o.c. The HardieTrim™ Flat Tabs should be attached to the trim in an alternating pattern to the top and bottom of the band board (Figure 24, 25). Use 16 ga. galvanized 2" long finish nails to ensure proper fastening if needed.

Fasten 4 staples to the center of the nailing ridge



Figure 24

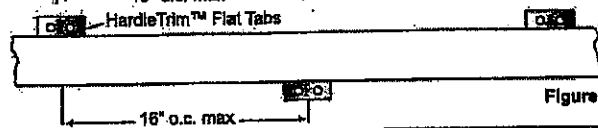
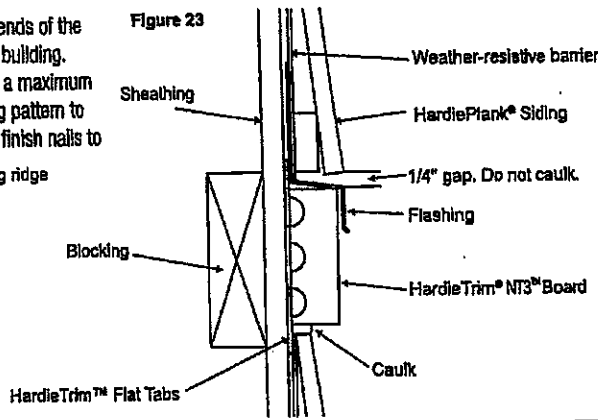


Figure 25

Figure 23



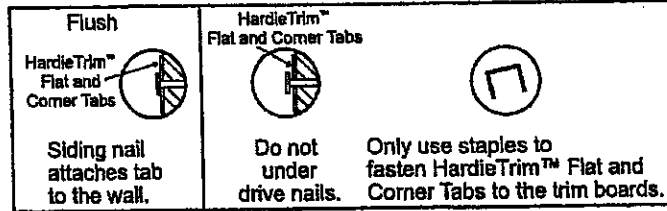
GENERAL FASTENING REQUIREMENTS

Fasteners must be corrosion resistant, galvanized, or stainless steel. Electro-galvanized are acceptable but may exhibit premature corrosion. James Hardie recommends the use of quality, hot-dipped galvanized fasteners. James Hardie is not responsible for the corrosion resistance of fasteners. Stainless steel fasteners are recommended when installing James Hardie® products near the ocean, large bodies of water, or very humid climates.

Manufacturers of ACQ and CA preservative-treated wood recommend spacer materials or other physical barriers to prevent direct contact of ACQ or CA preservative-treated wood and aluminum products. Fasteners used to attach HardieTrim Tabs to preservative-treated wood shall be of hot dipped zinc-coated galvanized steel or stainless steel and in accordance to 2009 IRC R317.3 or 2009 IBC 2304.9.5."

- Drive fasteners perpendicular to the trim and framing.
- Do not drive fasteners at an angle.
- For wood framing, under driven fasteners should be hit flush to the HardieTrim™ Flat and Corner Tabs with a hammer (for steel framing, remove and replace nail).
- Do not use aluminum fasteners, staples, or clipped head nails to attach the product directly to the building.

Figure 26



PNEUMATIC FASTENING:

HardieTrim® NT3™ boards with the back groove can be fastened with a pneumatic tool. All fasteners should be driven flush to the HardieTrim™ Flat and Corner Tabs (Figure 26). A flush mount attachment on the pneumatic tool is recommended. This will help control the depth the fastener is driven. If setting the depth proves difficult, choose a setting that under drives the fastener. (Drive under driven fasteners snug with a smooth faced hammer - Does not apply for installation to steel framing).

FASTENER TABLE

Application	Framing Material Tab is nailed into	Fastener (tab to framing)	Fastener (tab to NT3 trim)	Max Tab Spacing (inches on center)
Flat Tab	Wood Stud (minimum G=0.42)	One 6d corrosion resistant siding nail installed through center of flange into framing	Four 18 ga. X 1/2" long X 1/4" wide corrosion resistant crown staples, equally spaced in one row	16
	Minimum APA rated 7/16" OSB	Two 4d ring shank corrosion resistant siding nails equally spaced installed through flange into framing		
	Minimum 20 gauge steel	One No. 8 X 1" long X 0.323" head diameter screw (corrosion resistant) installed through flange into framing		
Corner Tab	Wood Stud (minimum G=0.42)	On each flange, install one 6d corrosion resistant siding nail through flange into framing	For each piece of trim, install Four 18 ga. X 1/2" long X 1/4" wide corrosion resistant crown staples, equally space in two rows	20
	Minimum APA rated 7/16" OSB	On each flange, install two 4d ring shank corrosion resistant siding nails through flange into framing		
	Minimum 20 gauge steel	On each flange, install one No. 8 X 1" long X 0.323" head diameter screw (corrosion resistant) through flange into framing		

Wind-Borne Debris Region: "Supplemental fasteners may be necessary when installing tabs in a Wind-Borne Debris Region, please call Technical Services 800-942-7343 with any questions."



CUT EDGE TREATMENT

Caulk, paint or prime all field cut edges. James Hardie touch-up kits are required to touch-up ColorPlus products.

CAULKING

For best results use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. **Note:** OSI Quad as well as some other caulking manufacturers do not allow tooling.

PAINTING

DO NOT use stain on James Hardie® products. James Hardie products must be painted within 180 days for primed product and 90 days for unprimed. 100% acrylic topcoats are recommended.

DO NOT paint when wet. For application rates refer to paint manufacturers specifications. Back-rolling is recommended if the siding is sprayed.

COLORPLUS® TECHNOLOGY. CAULKING, TOUCH-UP & LAMINATE

- Care should be taken when handling and cutting James Hardie ColorPlus products. At the job-site use a soft cloth to gently wipe any residue or construction dust left on the product
- Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch-up applicator. Touch-up should be used sparingly. If large areas require touch-up, replace the damaged area with new HardieTrim NT3® board with ColorPlus Technology.
- Laminate sheet must be removed immediately after installation of each trim board.
- Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus® product dealer.
- Treat all other non-factory cut edges using the ColorPlus Technology edge coat, available from your ColorPlus product dealer.

Note: James Hardie does not warrant the usage of third party touch-up or paints used as touch-up on James Hardie ColorPlus products.

Problems with appearance or performance arising from use of third party touch-up paints or paints used as touch-up that are not James Hardie touch-up, will not be covered under the James Hardie ColorPlus Limited Finish Warranty.

PAINTING JAMES HARDIE® SIDING AND TRIM PRODUCTS WITH COLORPLUS® TECHNOLOGY

When repainting ColorPlus® products, James Hardie recommends the following regarding surface preparation and topcoat application:

- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew
- Repriming is normally not necessary
- 100% acrylic topcoats are recommended
- DO NOT use stain or oil/alkyd based paints
- Apply finish coat in accordance with paint manufacturers written instructions regarding coverage, application methods, and application temperature
- DO NOT caulk nail heads when using ColorPlus products, refer to the ColorPlus touch-up section

RECOGNITION: HardieTrim NT3® boards may be installed as an equal alternative to conventional trim permitted for use in: the 2003 International Residence Code for One - and Two - Family - Dwellings, Section R703.1. the 2003 International Residence Code for One - and Two - Family - Dwellings, Section R703.1.

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Additional Installation Information,
Warranties, and Warnings are available at
www.jameshardie.com



TR1118_P5/5 11/12

4/4 & 5/4

HardieTrim® **HL** Boards



JamesHardie

EFFECTIVE NOVEMBER 2012

INSTALLATION REQUIREMENTS - PRIMED & COLORPLUS® PRODUCTS

Visit www.jameshardie.com for the most recent version.

These instructions are to be used for HardieTrim® HZ™ Boards ONLY and are ONLY valid in the following states: WA, OR, CA, HI, NV, UT, ID, CO, WY, MT, AZ, NM.

IMPORTANT: FAILURE TO INSTALL AND FINISH THIS PRODUCT IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND JAMES HARDIE WRITTEN APPLICATION INSTRUCTIONS MAY LEAD TO PERSONAL INJURY, AFFECT SYSTEM PERFORMANCE, VIOLATE LOCAL BUILDING CODES, AND VOID THE PRODUCT ONLY WARRANTY. BEFORE INSTALLATION, CONFIRM THAT YOU ARE USING THE CORRECT HARDIEZONE INSTRUCTIONS. TO DETERMINE WHICH HARDIEZONE APPLIES TO YOUR LOCATION, VISIT WWW.HARDIEZONE.COM OR CALL 1-866-942-7343 (866 9HARDIE)

STORAGE & HANDLING:

Store flat and keep dry and covered prior to installation. Installing siding wet or saturated may result in shrinkage at butt joints. Carry product on edge. Protect edges and corners from breakage. James Hardie is not responsible for damage caused by improper storage and handling of the product.



CUTTING INSTRUCTIONS

OUTDOORS

1. Position cutting station so that wind will blow dust away from user and others in working area.
2. Use one of the following methods:
 - A. Better: 1. Dust reducing circular saw equipped with a HardieBlade® saw blade and HEPA vacuum extraction
 - B. Good: 1. Dust reducing circular saw with a HardieBlade saw blade (only use for low to moderate cutting)

INDOORS

- NEVER use a power saw indoors
- NEVER use a circular saw blade that does not carry the HardieBlade saw blade trademark
- NEVER dry-sweep - Use wet suppression or HEPA Vacuum

Important Note: For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best"-level cutting methods where feasible.

NIOSH-approved respirators can be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at www.jameshardie.com to help you determine the most appropriate cutting method for your job requirements. If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

HardieTrim® board is a decorative non-load bearing trim product. Do not use as fascia in HZ™ zones

GENERAL REQUIREMENTS:

- Wood or steel backing must be provided for attaching HardieTrim boards.
- A water-resistive barrier is required in accordance with local building code requirements. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements. James Hardie will assume no responsibility for water infiltration. James Hardie does manufacture HardieWrap™ Weather Barrier, a non-woven non-perforated housewrap¹, which complies with building code requirements.
- When installing James Hardie products all clearance details in figs. 3,4,5,6,7,8, & 9 must be followed in accordance to your HardieZone.
- Flashing is required over all horizontal protruding and exposed trim.
- Adjacent finished grade must slope away from the building in accordance with local building codes - typically a minimum of 6" in the first 10'.
- Do not install James Hardie products such that they may remain in contact with standing water.
- DO NOT use stain on James Hardie products.
- DO NOT install HardieTrim over any lapped siding products.

INSTALLATION

HardieTrim may be installed using traditional fastening method or by concealed fastening method.

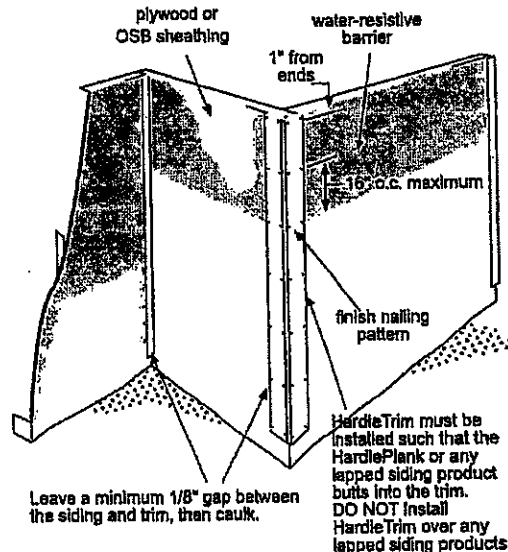
Traditional Fastener Requirements

Use 2" minimum 16 ga. finish nails to attach HardieTrim boards to wood frame construction. ET&F or equivalent fasteners or screws may be used to attach HardieTrim boards to steel frame construction.

Fastening instructions are similar for all applications. When using finish nails, position nails no closer than 1/2" from the edges of the trim and for all other fasteners no closer than 3/4". Fasteners must be no closer than 1" from ends of trim and spaced a maximum of 16" o.c. Ensure trim is adequately fastened.

James Hardie recommends using stainless steel finish nails when installing HardieTrim (Trim, Battens, Fascia, etc.) products. HardieTrim 4/4 & 5/4 boards with ColorPlus® Technology: A finish nail is required for installing HardieTrim 4/4 & 5/4 boards. Remove laminate sheet as soon as possible after nailing. Nail head touch up can be done before or after removal of the laminate sheet when using finish nails. The preferred method is to touch-up while the laminate sheet is in place. Remove the laminate sheet before paint dries.

Figure 1



Minimum fastener guide for finish nailing:

	Pre-built corner	Site Built Corners	Other areas (e.g. window trim, band boards and fascia)
4"	1 nail every 16" to attach boards together + 1 nail every 18" each board	2 nails every 16"	2 nails every 16"
6"	1 nail every 16" to attach boards together + 2 nails every 16" each board	2 nails every 16"	2 nails every 16"
8"	-	3 nails every 16"	3 nails every 16"
12"	-	4 nails every 16"	3 nails every 16"

¹For additional information on HardieWrap™ Weather Barrier, consult James Hardie at 1-866-4Hardie or www.hardiewrap.com

WARNING: AVOID BREATHING SILICA DUST

James Hardie® products contain respirable crystalline silica, which is known to the State of California to cause cancer and is considered by IARC and NIOSH to be a cause of cancer from some occupational sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) use fiber cement shears for cutting or, where not feasible, use a HardieBlade® saw blade and dust-reducing circular saw attached to a HEPA vacuum; (3) warn others in the immediate area; (4) wear a properly fitted, NIOSH-approved dust mask or respirator (e.g. N-95) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods - never dry sweep. For further information, refer to our installation instructions and Material Safety Data Sheet available at www.jameshardie.com or by calling 1-800-942-7343. FAILURE TO ADHERE TO OUR WARNINGS, MSDS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

TRIMMING CORNERS

When installing corners or other vertical trim, position boards on the wall and attach (fig. 2b). Use weather cuts sloped away from the wall to join (fig. 3). Alternatively corners can be pre-built (fig. 2a).

Pre-Built Corners

Corners can be pre-built off the wall using 2" finishing nails. Each side of the pre-built corner must be secured to the wall (fig. 2a).

Figure 2a

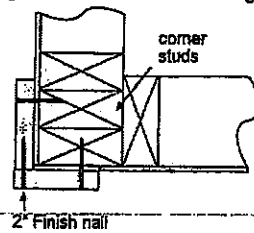


Figure 2b

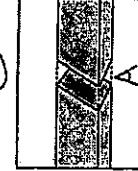
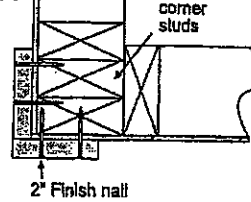


Figure 3

22.5° - 45°
water cut

CLEARANCES: Refer to your HardieZone™ for proper clearance requirements

Note: HZ5™ = minimum 2" / HZ10™ = minimum 1" - 2"

Install siding and trim products in compliance with local building code requirements for clearance between the bottom edge of the siding and the adjacent finished grade.

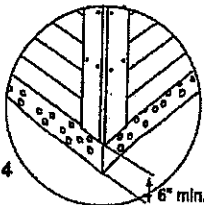
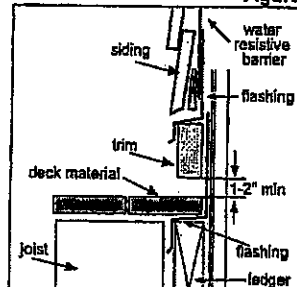


Figure 4

Maintain a minimum 1-2" clearance between James Hardie® trim products and decks, paths, steps and driveways.

Figure 5



At the juncture of the roof and vertical surfaces, flashing and counterflashing shall be installed per the roofing manufacturer's instructions. Provide a 1-2" clearance between the roofing and the bottom edge of the trim.

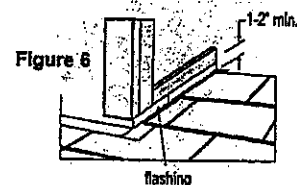
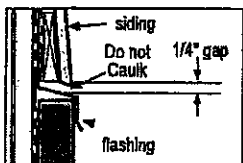


Figure 6

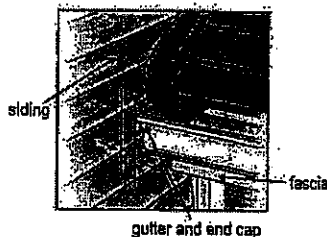
Maintain a 1/4" clearance between the bottom of James Hardie® products and horizontal flashing. Do not caulk gap.

Figure 7



Maintain a minimum 1" gap between gutter end caps and siding & trim.

Figure 8



VALLEY FLASHING

The valley flashing must extend a minimum 1-2" past the HardieTrim® Fascia and 6" to either side. If the valley flashing has been cut flush with the roofing, an additional valley flashing extension must be installed. If rain gutter is present and roof shingles extend 1" past fascia, a valley flashing extension is not required.

Figure 9

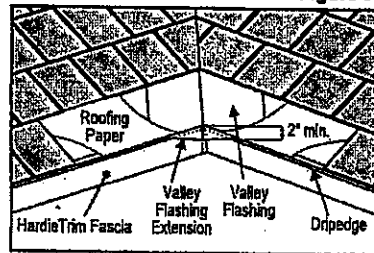
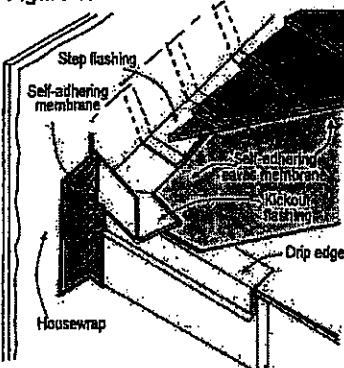


Figure 10



KICKOUT FLASHING

Because of the volume of water that can pour down a sloped roof, one of the most critical flashing details occurs where a roof intersects a sidewall. The roof must be flashed with step flashing. Where the roof terminates, install a kickout to deflect water away from the siding.

It is best to install a self-adhering membrane on the wall before the subfascia and trim boards are nailed in place, and then come back to install the kickout.

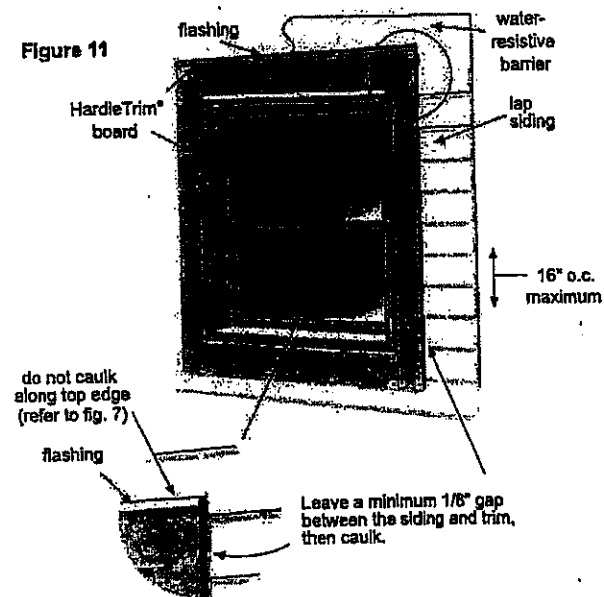
Figure 10, Kickout Flashing† To prevent water from dumping behind the siding and the end of the roof intersection, install a "kickout" as required by IRC code R905.2.8.3: "...flashing shall be a min. of 4" high and 4" wide." James Hardie recommends the kickout be angled between 100° - 110° to maximize water deflection.

† The illustration (figure 10) was reprinted with permission of THE JOURNAL OF LIGHT CONSTRUCTION. For subscription information, visit www.jlconline.com.

TRIM APPLICATION FOR WINDOWS, DOORS & OTHER OPENINGS

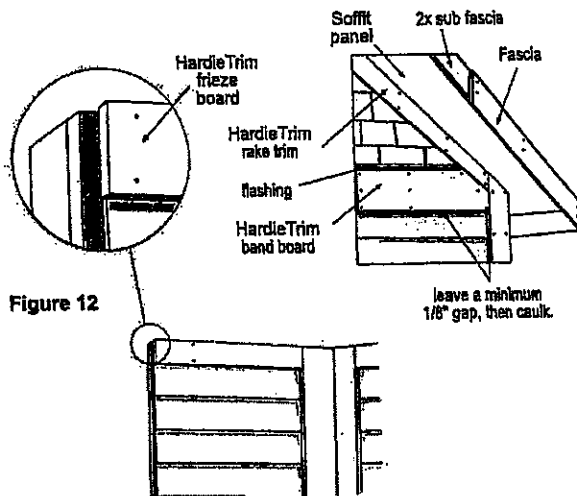
Trim the opening prior to the installation of the siding (fig. 11)

NOTE: Follow your window/door manufacturers installation instructions.



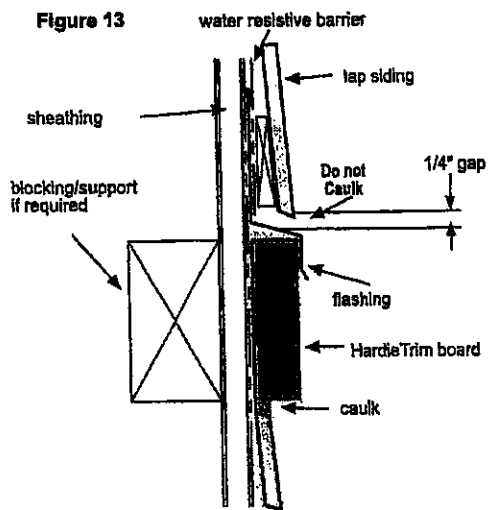
BAND BOARDS, FRIEZE BOARDS, & RAKE TRIM

HardieTrim® 4/4 & 5/4 boards may also be used as band boards, frieze boards, or rake trim (fig. 12).



BAND BOARD

A flashing is required over the trim (fig. 13).



CONCEALED FASTENING TABS

For Corners, Band Boards, Windows, and Door Applications:

HardieTrim® boards can be installed with Flat Tabs (JH sku no. 280154) and Corner Tabs (JH sku no. 280155) which provide concealed fastening. Only Flat and Corner Tabs can be used with HardieTrim® boards to create a concealed fastening. Additional framing may be required to ensure the Flat and Corner Tabs are fastened properly to the structure. Special attention should be paid to the framing when using a sheathing that does not have fastener holding equivalent to OSB or Plywood sheathing.

Step 1: Attach Flat Tabs to the back side of the trim with 4 18 ga. 1/2" L x 1/4" W narrow crown corrosion resistant staples, equally spaced in one row, positioned no closer than 1/2" from trim edges, using a pneumatic staple gun. (Figure 19)

Step 2: For wood frame construction, attach the trim to the building using 2, 6d siding nails fastened through the Flat Tabs. ET&F or equivalent fasteners may be used to attach the Flat Tabs to steel frame construction. (Figures 20)

Fastener spacing will vary based on application. Refer to specific sections in these instructions for required fastener spacing by application (window, band board, etc.) Refer to fastener table on page 6

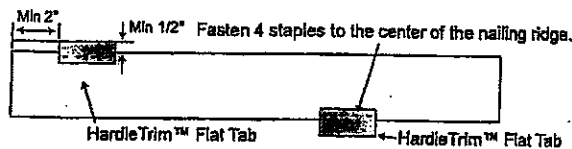


Figure 19



Figure 20

Installation of HardieTrim tabs in Coastal Regions:

James Hardie requires that stainless steel staples & fasteners be used when installing HardieTrim™ Tabs in coastal regions.

Installation of HardieTrim Tabs over Pressure Treated Lumber:

HardieTrim™ tabs shall not come in direct contact with ACQ or CA preservative-treated wood. Refer to the General Fastening section of this document for further information.

HardieTrim® NT3™ boards with ColorPlus® Technology

Remove the laminate sheet as soon as possible after attaching the trim to the building.

TRIMMING CORNERS

HardieTrim® boards are installed around corners by pre-building the corner off the wall with the Corner Tabs (JH sku no. 280155).

- Attach Corner Tabs to the back side of the trim with 8 18 ga. 1/2" L x 1/4" W narrow crown corrosion resistant staples using a pneumatic staple gun. Ensure the Corner Tabs are fastened tight and straight to the trim boards. (Figure 21)
- For wood frame construction, attach the trim to the building with 2, 6d siding nails fastened through the Corner Tabs. ET&F or equivalent fasteners may be used to attach the Corner Tabs to steel frame construction. (Figure 22)
- Attach a Corner Tab 1" from each edge and every 20" o.c.
- TIP: Creating a jig for the work station is recommended to ensure the corners are fastened securely and straight. (Figure 24)

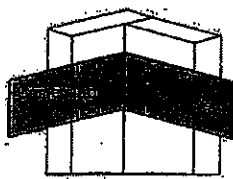


Figure 21

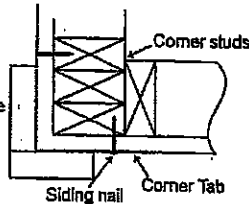


Figure 22

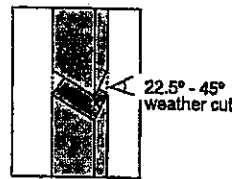


Figure 23

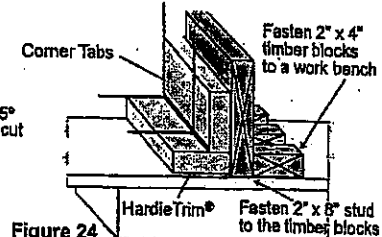


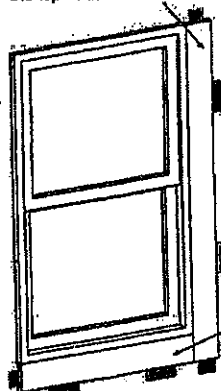
Figure 24

TRIM APPLICATION FOR WINDOWS, DOORS & OTHER OPENINGS

Trim the opening prior to the installation of the siding (Figure 26). Place a Flat Tab at the end of each trim board and one tab every 16" O.C. Attach the trim boards and Flat Tabs around the opening as shown in Figures 26 and 27. Use 16 ga. galvanized 2" long finish nails to ensure proper fastening if needed.

Figure 26

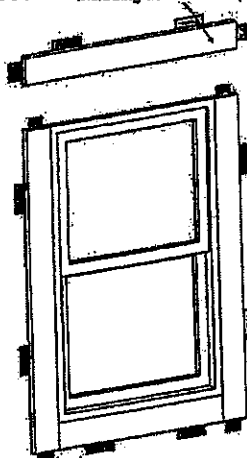
Side trim pieces go to the top of the window.



Bottom trim piece is the width of the window.

Figure 27

Header piece spans the window including the side trim pieces.

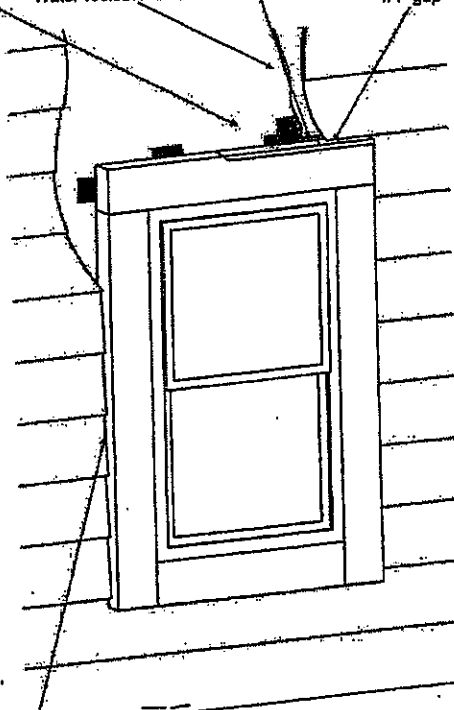


Flashing needs to be tucked under the water resistive barrier and over the Flat Tabs.

Do not caulk between the siding and the flashing.

Water-resistive Barrier

1/4" gap



1/8" caulked gap is left between siding and the side trim pieces.

Figure 28

NOTE: Follow your window/door manufacturers installation instructions.

BAND BOARD

A flashing is required over the trim and Flat Tabs. (Figure 29) Terminate ends of the Band Board into Trim or Siding or miter cut the edges of the trim at the corners of the building. Place a Flat Tab at the end of each trim board and one tab every stud at a maximum of 16" o.c. The Flat Tabs should be attached to the trim in an alternating pattern to the top and bottom of the band board (Figure 30 and 31). Use 16 ga. galvanized 2" long finish nails to ensure proper fastening if needed.

Fasten 4 staples to the tab as shown.



Figure 30

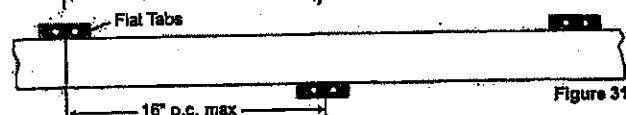





Figure 31

Figure 32

Flush	Flat and Corner Tabs	
		
Siding nail attaches tab to the wall.	Do not under drive nails.	Only use staples to fasten Flat and Corner Tabs to the trim boards.

* Refer to your paint manufacturer for washing and recoating requirements related to paint performance.

GENERAL FASTENING REQUIREMENTS

Fasteners must be corrosion resistant, galvanized, or stainless steel. Electro-galvanized are acceptable but may exhibit premature corrosion. James Hardie recommends the use of quality, hot-dipped galvanized nails. James Hardie is not responsible for the corrosion resistance of fasteners. Stainless steel fasteners are recommended when installing James Hardie® products near the ocean, large bodies of water, or very humid climates.

Manufacturers of ACQ and CA preservative-treated wood recommend spacer materials or other physical barriers to prevent direct contact of ACQ or CA preservative-treated wood and aluminum products. Fasteners used to attach HardieTrim Tabs to preservative-treated wood shall be of hot dipped zinc-coated galvanized steel or stainless steel and in accordance to 2009 IRC R317.3 or 2009 IBC 2304.9.5."

- Drive fasteners perpendicular to the trim and framing.
- Do not drive nails at an angle.
- For wood framing, under driven nails should be hit flush to the trim with a hammer (for steel framing, remove and replace nail).
- Do not use aluminum fasteners, staples, or clipped head nails.

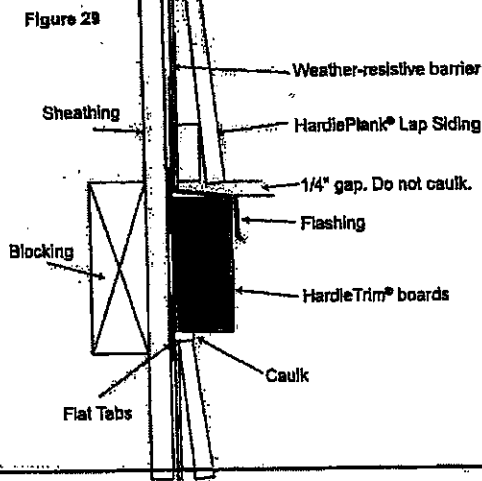


Figure 29

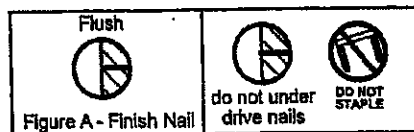


Figure A - Finish Nail

PNEUMATIC FASTENING:

HardieTrim® 4/4 & 5/4 boards can be hand nailed or fastened with a pneumatic tool. Pneumatic fastening is highly recommended. Finish nails should be driven flush to the trim (fig. A). A flush mount attachment on the pneumatic tool is recommended. This will help control the depth the nail is driven. If setting the nail depth proves difficult, choose a setting that under drives the nail. (Drive under driven nails snug with a smooth faced hammer - Does not apply for installation to steel framing).

CUT EDGE TREATMENT

Caulk, paint or prime all field cut edges. James Hardie touch-up kits are required to touch-up ColorPlus products.

CAULKING

For best results use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. Note: OSI Quad as well as some other caulking manufacturers do not allow tooling.

PAINTING

DO NOT use stain on James Hardie® products. James Hardie products must be painted within 180 days for primed product and 90 days for unprimed. 100% acrylic topcoats are recommended. Do not paint when wet. For application rates refer to paint manufacturers specifications. Back-rolling is recommended if the siding is sprayed.

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

- Care should be taken when handling and cutting James Hardie ColorPlus products. At the job-site use a soft cloth to gently wipe any residue or construction dust left on the product
 - Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch-up applicator. Touch-up should be used sparingly. If large areas require touch-up, replace the damaged area with new HardieTrim board with ColorPlus Technology.
 - Laminate sheet must be removed immediately after installation of each trim board.
 - Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus product dealer.
 - Treat all other non-factory cut edges using the ColorPlus Technology edge coat, available from your ColorPlus product dealer.
- Note: James Hardie does not warrant the usage of third party touch-up or paints used as touch-up on James Hardie ColorPlus products.

Problems with appearance or performance arising from use of third party touch-up paints or paints used as touch-up that are not James Hardie touch-up, will not be covered under the James Hardie ColorPlus Limited Finish Warranty.

PAINTING JAMES HARDIE® SIDING AND TRIM PRODUCTS WITH COLORPLUS® TECHNOLOGY

When repainting ColorPlus® products, James Hardie recommends the following regarding surface preparation and topcoat application:

- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew
- Repriming is normally not necessary
- 100% acrylic topcoats are recommended
- DO NOT use stain or oil/alkyd based paints
- Apply finish coat in accordance with paint manufacturers written instructions regarding coverage, application methods, and application temperature
- DO NOT caulk nail heads when using ColorPlus products, refer to the ColorPlus touch-up section

FASTENER TABLE

Application	Framing Material Tab is nailed into	Fastener (tab to framing)	Fastener (tab to NT3 trim)	Max Tab Spacing (inches on center)
Flat Tab	Wood Stud (minimum G=0.42)	One 6d corrosion resistant siding nail installed through flange into framing	Four 18 ga. X 1/2" long X 1/4" wide corrosion resistant crown staples, equally spaced in one row	18
	Minimum APA rated 7/16" OSB	Two 4d ring shank corrosion resistant siding nails equally spaced installed through flange into framing		
	Minimum 20 gauge steel	One No. 8 X 1" long X 0.323" head diameter screw (corrosion resistant) installed through flange into framing		
Corner Tab	Wood Stud (minimum G=0.42)	On each flange, install one 6d corrosion resistant siding nail through flange into framing	For each piece of trim, install Four 18 ga. X 1/2" long X 1/4" wide corrosion resistant crown staples, equally space in two rows	20
	Minimum APA rated 7/16" OSB	On each flange, install two 4d ring shank corrosion resistant siding nails through flange into framing		
	Minimum 20 gauge steel	On each flange, install one No. 8 X 1" long X 0.323" head diameter screw (corrosion resistant) through flange into framing		

Wind-Borne Debris Region: "Supplemental fasteners may be necessary when installing tabs in a Wind-Borne Debris Region, please call Technical Services 800-942-7343 with any questions."

RECOGNITION: HardieTrim boards may be installed as an equal alternative to conventional trim permitted for use in: the 1997 Uniform Building Code, Section 601.5.5; the 1997 Standard Building Code, Section 1404.1; the 1999 BOCA National Building Code, Section 1407.2.2; 2003 International Building Code, Section 1402.1, the 2003 International Residence Code for One- and Two- Family- Dwellings, Section R703.1, the 2003 International Residence Code for One- and Two- Family- Dwellings, Section R703.1, and the 1998 International One-and-Two-Family Dwelling Code, Section 601.1.

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Additional Installation Information,
Warranties, and Warnings are available at
www.jameshardie.com



JamesHardie

HardieTrim® **HL5** Batten Boards

INSTALLATION REQUIREMENTS - PRIMED & COLORPLUS® PRODUCTS



EFFECTIVE NOVEMBER 2012

Visit www.jameshardie.com for the most recent version.

These instructions are to be used for HardieTrim® HL5® Boards ONLY and are NOT VALID in the following states: AK, WA, OR, CA, HI, NV, UT, ID, CO, WY, MT, AZ, NM.

IMPORTANT: FAILURE TO INSTALL AND FINISH THIS PRODUCT IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND JAMES HARDIE WRITTEN APPLICATION INSTRUCTIONS MAY LEAD TO PERSONAL INJURY, AFFECT SYSTEM PERFORMANCE, VIOLATE LOCAL BUILDING CODES, AND VOID THE PRODUCT ONLY WARRANTY. BEFORE INSTALLATION, CONFIRM THAT YOU ARE USING THE CORRECT HARDIEZONE INSTRUCTIONS. TO DETERMINE WHICH HARDIEZONE APPLIES TO YOUR LOCATION, VISIT WWW.HARDIEZONE.COM OR CALL 1-866-942-7343 (866 9HARDIE)

STORAGE & HANDLING:

Store flat and keep dry and covered prior to installation. Installing siding wet or saturated may result in shrinkage at butt joints. Carry boards on edge. Protect edges and corners from breakage. James Hardie is not responsible for damage caused by improper storage and handling of the product.



CUTTING INSTRUCTIONS

OUTDOORS

1. Position cutting station so that wind will blow dust away from user and others in working area.
2. Use one of the following methods:
 - b. Better: 1. Dust reducing circular saw equipped with a HardieBlade® saw blade and HEPA vacuum extraction
 - c. Good: 1. Dust reducing circular saw with a HardieBlade saw blade (only use for low to moderate cutting)

INDOORS

- NEVER use a power saw indoors
- NEVER use a circular saw blade that does not carry the HardieBlade saw blade trademark
- NEVER dry sweep -- Use wet suppression or HEPA Vacuum

Important Note: For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best"-level cutting methods where feasible. NIOSH-approved respirators can be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at www.jameshardie.com to help you determine the most appropriate cutting method for your job requirements. If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

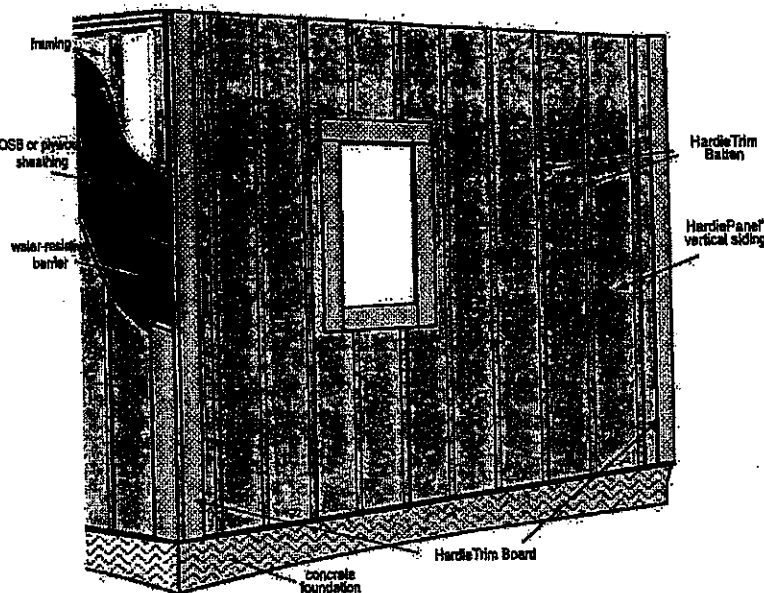
SD0063106

HardieTrim® Batten boards are a decorative non-load bearing vertical trim product.

GENERAL REQUIREMENTS:

- Wood or steel backing must be provided for attaching HardieTrim® Battens.
- A water-resistive barrier is required in accordance with local building code requirements. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements. James Hardie does manufacture HardieWrap™ Weather Barrier, a non-woven non-perforated housewrap¹, which complies with building code requirements.
- Flashing is required over all horizontal protruding and exposed trim.
- When installing James Hardie products all clearance details in figs. 2,3,4,5,6,7,8 must be followed.
- Adjacent finished grade must slope away from the building in accordance with local building codes - typically a minimum of 6" in the first 10'.
- DO NOT install HardieTrim Battens, such that they may remain in contact with standing water.
- DO NOT use stain on James Hardie® products.

Figure 1



INSTALLATION

Fastener Requirements

A finish nail is required for installing HardieTrim Battens with ColorPlus® Technology. 2" minimum 16 ga. finish nails or smooth shank siding nails may be used to attach HardieTrim Battens to wood frame construction. ET&F or equivalent fasteners or screws may be used to attach HardieTrim Battens to steel frame construction.

James Hardie recommends using stainless steel finish nails when installing HardieTrim (trim, battens, fascia, etc.) products.

Fastening instructions are similar for all applications. Position nails no closer than 3/4" from the edges of the HardieTrim Battens. Fasteners must be no closer than 1" from ends of HardieTrim Battens and spaced a maximum of 16" o.c. (fig 1). Ensure HardieTrim Batten is adequately fastened.

¹For additional information on HardieWrap™ Weather Barrier, consult James Hardie at 1-866-4Hardie or www.hardiewrap.com

WARNING: AVOID BREATHING SILICA DUST

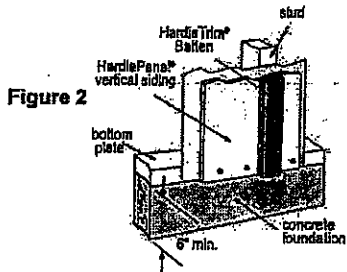
James Hardie® products contain respirable crystalline silica, which is known to the State of California to cause cancer and is considered by IARC and NIOSH to be a cause of cancer from some occupational sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) use fiber cement shears for cutting or, where not feasible, use a HardieBlade saw blade and dust-reducing circular saw attached to a HEPA vacuum; (3) wear others in the immediate area; (4) wear a properly-fitted, NIOSH-approved dust mask or respirator (e.g. N-95) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods - never dry sweep. For further information, refer to our installation instructions and Material Safety Data Sheet available at www.jameshardie.com or by calling 1-800-9HARDIE (1-800-942-7343). FAILURE TO ADHERE TO OUR WARNINGS, MSDS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

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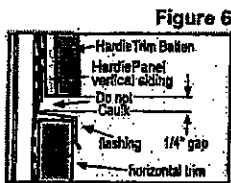
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CLEARANCES

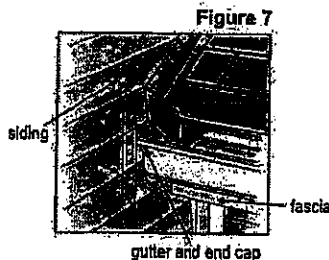
Install siding and trim products in compliance with local building code requirements for clearance between the bottom edge of the siding and the adjacent finished grade.



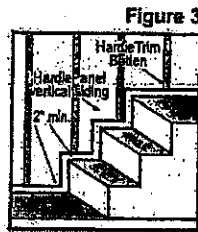
Maintain a 1/4" clearance between the bottom of James Hardie products and horizontal flashing. Do not caulk gap.



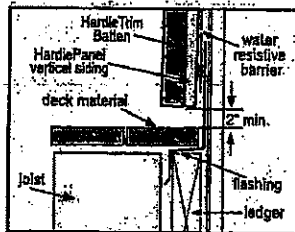
Maintain a minimum 1" gap between gutter end caps and siding & trim.



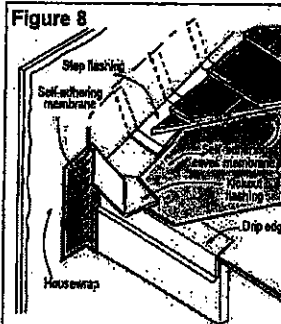
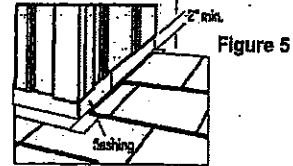
Maintain a 2" minimum clearance between James Hardie products and paths, steps and driveways.



Maintain a 2" minimum clearance between James Hardie products and decking material.



At the juncture of the roof and vertical surfaces, flashing and counterflashing shall be installed per the roofing manufacturer's instructions. Provide a 2" minimum clearance between the roofing and the bottom edge of the siding and trim.



KICKOUT FLASHING

Because of the volume of water that can pour down a sloped roof, one of the most critical flashing details occurs where a roof intersects a sidewall. The roof must be flashed with step flashing. Where the roof terminates, install a kickout to deflect water away from the siding.

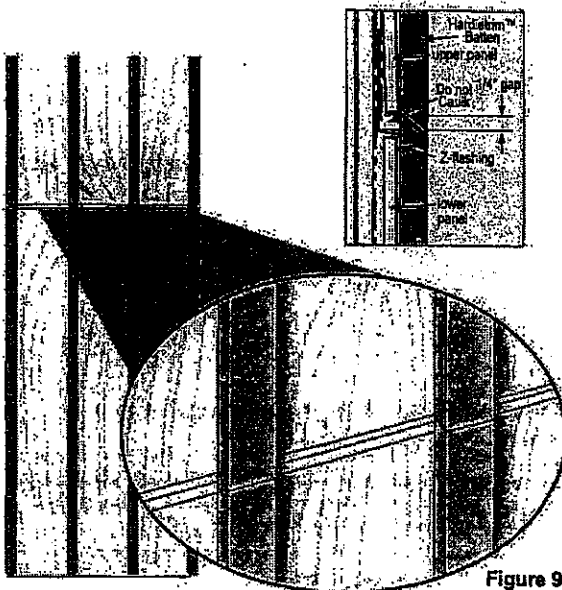
It is best to install a self-adhering membrane on the wall before the subfascia and trim boards are nailed in place, and then come back to install the kickout.

Figure 8, Kickout Flashing To prevent water from dumping behind the siding and the end of the roof intersection, install a "kickout" as required by IRC code R905.2.8.3: "...flashing shall be a min. of 4" high and 4" wide." James Hardie recommends the kickout be angled between 100° - 110° to maximize water deflection.

Horizontal Panel Joints - At horizontal panel joints HardieTrim® battens must be installed according to option 1 or 2 below. When installing HardieTrim Battens horizontally, they must be installed as a panel joint according to option 2.

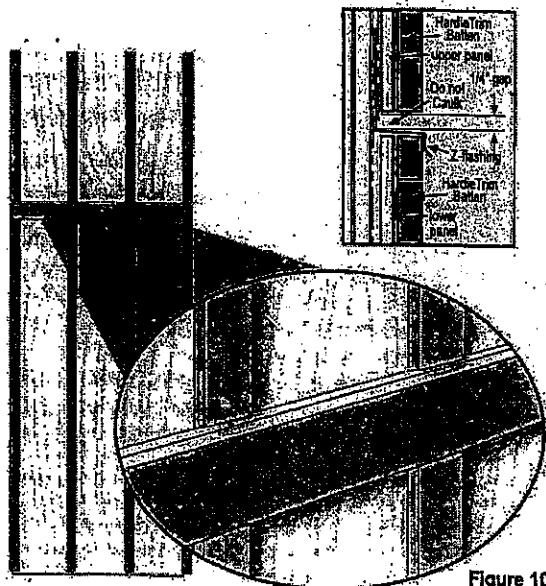
Option 1

Figure 9 - No horizontal band board - Make a 22.5- 45 degree weather cut, in the HardieTrim batten, just above the 1/4" clearance between panels.



Option 2

Figure 10 - Horizontal Band Board - Install a horizontal band board at the top of the bottom panel. Butt the lower batten to the band board and start the top batten at the bottom edge of the top panel. Maintain a 1/4" clearance above horizontal flashing.



* The illustration (figure 8) was reprinted with permission of THE JOURNAL OF LIGHT CONSTRUCTION. For subscription information, visit www.jlconline.com.

GENERAL FASTENING REQUIREMENTS

Fasteners must be corrosion resistant, galvanized, or stainless steel. Electro-galvanized are acceptable but may exhibit premature corrosion. James Hardie recommends the use of quality, hot-dipped galvanized nails. James Hardie is not responsible for the corrosion resistance of fasteners. Stainless-steel fasteners are recommended when installing James Hardie® products near the ocean, large bodies of water, or in very humid climates.

Manufacturers of ACQ and CA preservative-treated wood recommend spacer materials or other physical barriers to prevent direct contact of ACQ or CA preservative-treated wood and aluminum products. Fasteners used to attach HardieTrim Tabs to preservative-treated wood shall be of hot dipped zinc-coated galvanized steel or stainless steel and in accordance to 2009 IRC R317.3 or 2009 IBC 2304.9.5.*

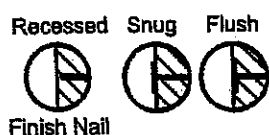


Figure A

PNEUMATIC FASTENING

James Hardie products can be hand nailed or fastened with a pneumatic tool. Pneumatic fastening is highly recommended. Set air pressure so that the fastener is driven snug with the surface of the siding. A flush mount attachment on the pneumatic tool is recommended. This will help control the depth the nail is driven. If setting the nail depth proves difficult, choose a setting that under drives the nail. (Drive under driven nails snug with a smooth faced hammer - Does not apply for installation to steel framing).

- Drive fasteners perpendicular to siding and framing.
- Fastener heads should fit snug against siding (no air space). (fig. A)
- Do not over-drive nail heads or drive nails at an angle.
- If nail is countersunk, fill nail hole and add a nail.
- For wood framing, under driven nails should be hit flush to the trim with a hammer (For steel framing, remove and replace nail).
- Do not use aluminum fasteners, staples, or clipped head nails.



CUT EDGE TREATMENT

Caulk, paint or prime all field cut edges. James Hardie touch-up kits are required to touch-up ColorPlus products.

CAULKING

For best results use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. For best results use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. Note: OSI Quad as well as some other caulking manufacturers do not allow tooling.

PAINTING

DO NOT stain James Hardie® products. James Hardie products must be painted within 180 days for primed product and 90 days for unprimed. 100% acrylic topcoats are recommended. Do not paint when wet. For application rates refer to paint manufacturers specifications. Back-rolling is recommended if the siding is sprayed.

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

- Care should be taken when handling and cutting James Hardie ColorPlus products. At the job-site use a soft cloth to gently wipe any residue or construction dust left on the product
- Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch-up applicator. Touch-up should be used sparingly. If large areas require touch-up, replace the damaged area with new HardieTrim® batten board with ColorPlus Technology.
- Laminate sheet must be removed immediately after installation.
- Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus® product dealer.
- Treat all other non-factory cut edges using the ColorPlus Technology edge coat, available from your ColorPlus product dealer.

Note: James Hardie does not warrant the usage of third party touch-up or paints used as touch-up on James Hardie ColorPlus products.

Problems with appearance or performance arising from use of third party touch-up paints or paints used as touch-up that are not James Hardie touch-up, will not be covered under the James Hardie ColorPlus Limited Finish Warranty.

PAINTING JAMES HARDIE® SIDING AND TRIM PRODUCTS WITH COLORPLUS TECHNOLOGY

When repainting ColorPlus products, James Hardie recommends the following regarding surface preparation and topcoat application:

- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew
- Repriming is normally not necessary
- 100% acrylic topcoats are recommended
- DO NOT use stain or oil/alkyd base paints on James Hardie® products
- Apply finish coat in accordance with paint manufacturers written instructions regarding coverage, application methods, and application temperature
- DO NOT caulk nail heads when using ColorPlus products, refer to the ColorPlus touch-up section

RECOGNITION: HardieTrim® Battens may be installed as an equal alternative to conventional trim permitted for use in: the 1997 Uniform Building Code, Section 601.5.5; the 1997 Standard Building Code, Section 1404.1; the 1999 BOCA National Building Code, Section 1407.2.2; 2003 International Building Code, Section 1402.1, the 2003 International Residence Code for One - and Two - Family - Dwellings, Section R703.1, the 2003 International Residence Code for One - and Two - Family - Dwellings, Section R703.1, and the 1998 International One-and-Two-Family Dwelling Code, Section 601.1.

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Additional Installation Information, Warranties, and Warnings are available at www.jameshardie.com



JamesHardie



These instructions are to be used for HardieTrim® HZ™ Boards ONLY and are ONLY valid in the following states: WA, OR, CA, HI, NV, UT, ID, CO, WY, MT, AZ, NM.

IMPORTANT: FAILURE TO INSTALL AND FINISH THIS PRODUCT IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND JAMES HARDIE WRITTEN APPLICATION INSTRUCTIONS MAY LEAD TO PERSONAL INJURY, AFFECT SYSTEM PERFORMANCE, VIOLATE LOCAL BUILDING CODES, AND VOID THE PRODUCT ONLY WARRANTY. BEFORE INSTALLATION, CONFIRM THAT YOU ARE USING THE CORRECT HARDIEZONE INSTRUCTIONS. TO DETERMINE WHICH HARDIEZONE APPLIES TO YOUR LOCATION, VISIT WWW.HARDIEZONE.COM OR CALL 1-866-942-7343 (866 9HARDIE)

STORAGE & HANDLING:

Store flat and keep dry and covered prior to installation. Installing siding wet or saturated may result in shrinkage at butt joints. Carry product on edge. Protect edges and corners from breakage. James Hardie is not responsible for damage caused by improper storage and handling of the product.



CUTTING INSTRUCTIONS

OUTDOORS

1. Position cutting station so that wind will blow dust away from user and others in working area.
2. Use one of the following methods:
 - a. Better: 1. Dust reducing circular saw equipped with a HardieBlade® saw blade and HEPA vacuum extraction
 - c. Good: 1. Dust reducing circular saw with a HardieBlade saw blade (only use for low to moderate cutting)

INDOORS

- NEVER use a power saw indoors
- NEVER use a circular saw blade that does not carry the HardieBlade saw blade trademark
- NEVER dry sweep - Use wet suppression or HEPA Vacuum

Important Note: For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best"-level cutting methods where feasible. NIOSH-approved respirators can be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at www.jameshardie.com to help you determine the most appropriate cutting method for your job requirements. If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

SD000105

HardieTrim® Batten boards are a decorative non-load bearing vertical trim product.

GENERAL REQUIREMENTS:

- Wood or steel backing must be provided for attaching HardieTrim® Battens.
- A water-resistive barrier is required in accordance with local building code requirements. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements. James Hardie will assume no responsibility for water infiltration. James Hardie does manufacture HardieWrap™ Weather Barrier, a non-woven non-perforated housewrap¹, which complies with building code requirements.
- When installing James Hardie products all clearance details in figs. 2,3,4,5,6,7,&8 must be followed.
- Flashing is required over all horizontal protruding and exposed trim.
- Adjacent finished grade must slope away from the building in accordance with local building codes - typically a minimum of 6" in the first 10'.
- DO NOT install HardieTrim Battens, such that they may remain in contact with standing water.
- DO NOT use stain on James Hardie® products.

INSTALLATION

Fastener Requirements

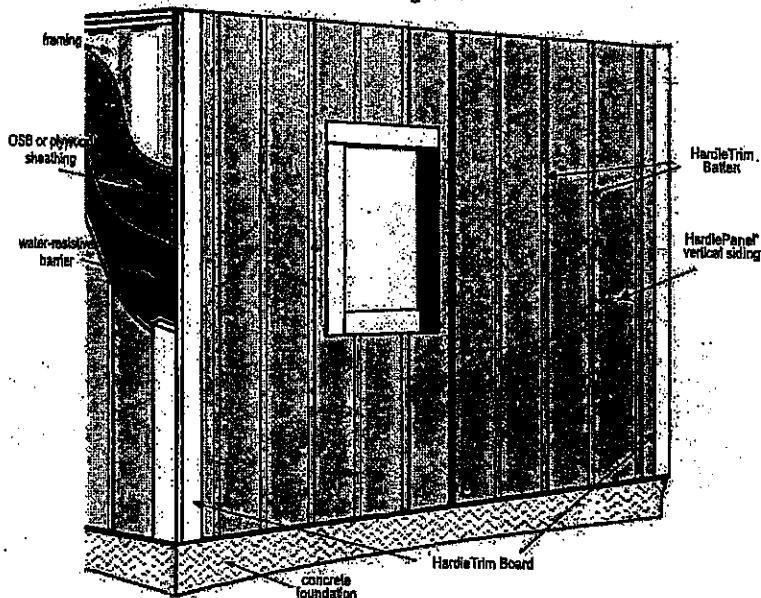
A finish nail is required for installing HardieTrim Battens with ColorPlus® Technology. 2" minimum 16 ga. finish nails or smooth shank siding nails may be used to attach HardieTrim Battens to wood frame construction. ET&F or equivalent fasteners or screws may be used to attach HardieTrim Battens to steel frame construction.

James Hardie recommends using stainless steel finish nails when installing HardieTrim (trim, battens, fascia, etc.) products.

Fastening instructions are similar for all applications. Position nails no closer than 3/4" from the edges of the HardieTrim Battens. Fasteners must be no closer than 1" from ends of HardieTrim Battens and spaced a maximum of 16" o.c. (fig 1). Ensure HardieTrim Batten is adequately fastened.

¹For additional information on HardieWrap™ Weather Barrier, consult James Hardie at 1-866-4Hardie or www.hardiewrap.com

Figure 1



WARNING: AVOID BREATHING SILICA DUST

James Hardie® products contain respirable crystalline silica, which is known to the State of California to cause cancer and is considered by IARC and NIOSH to be a cause of cancer from some occupational sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) use fiber cement shears for cutting or, where not feasible, use a HardieBlade saw blade and dust-reducing circular saw attached to a HEPA vacuum; (3) warn others in the immediate area; (4) wear a properly-fitted, NIOSH-approved dust mask or respirator (e.g. N-95) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods - never dry sweep. For further information, refer to our installation instructions and Material Safety Data Sheet available at www.jameshardie.com or by calling 1-800-9HARDIE (1-800-942-7343). FAILURE TO ADHERE TO OUR WARNINGS, MSDS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

SD000105

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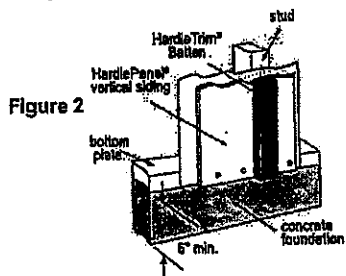
CLEARANCES: Refer to your HardieZone™ for proper clearance requirements (Note: HZ5® = min. 2" / HZ10® = min. 1"-2")

Install siding and trim products in compliance with local building code requirements for clearance between the bottom edge of the siding and the adjacent finished grade.

Maintain a 1-2" minimum clearance between James Hardie® products and paths, steps and driveways.

Maintain a 1-2" minimum clearance between James Hardie products and decking material.

At the juncture of the roof and vertical surfaces, flashing and counterflashing shall be installed per the roofing manufacturer's instructions. Provide a 1-2" minimum clearance between the roofing and the bottom edge of the siding and trim.



Maintain a 1/4" clearance between the bottom of James Hardie products and horizontal flashing. Do not caulk gap.

Maintain a minimum 1" gap between gutter end caps and siding & trim.

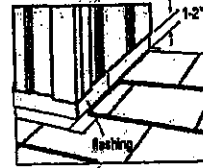
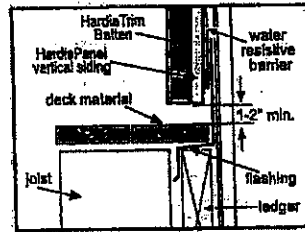
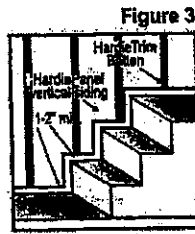


Figure 4

Figure 5

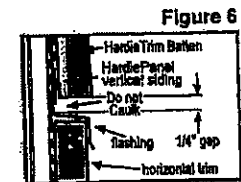


Figure 6

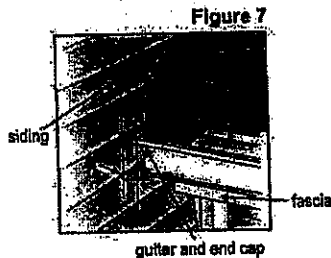
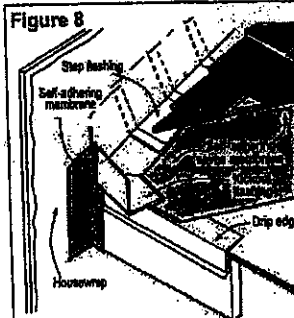


Figure 7



KICKOUT FLASHING

Because of the volume of water that can pour down a sloped roof, one of the most critical flashing details occurs where a roof intersects a sidewall. The roof must be flashed with step flashing. Where the roof terminates, install a kickout to deflect water away from the siding.

It is best to install a self-adhering membrane on the wall before the subfascia and trim boards are nailed in place, and then come back to install the kickout.

Figure 8, Kickout Flashing* To prevent water from dumping behind the siding and the end of the roof intersection, install a "kickout" as required by IRC code R905.2.8.3: "...flashing shall be a min. of 4" high and 4" wide." James Hardie recommends the kickout be angled between 100° - 110° to maximize water deflection

Horizontal Panel Joints - At horizontal panel joints HardieTrim® battens must be installed according to option 1 or 2 below. When installing HardieTrim Battens horizontally, they must be installed as a panel joint according to option 2.

Option 1

Figure 9 - No horizontal band board - Make a 22.5- 45 degree weather cut, in the HardieTrim batten, just above the 1/4" clearance between panels.

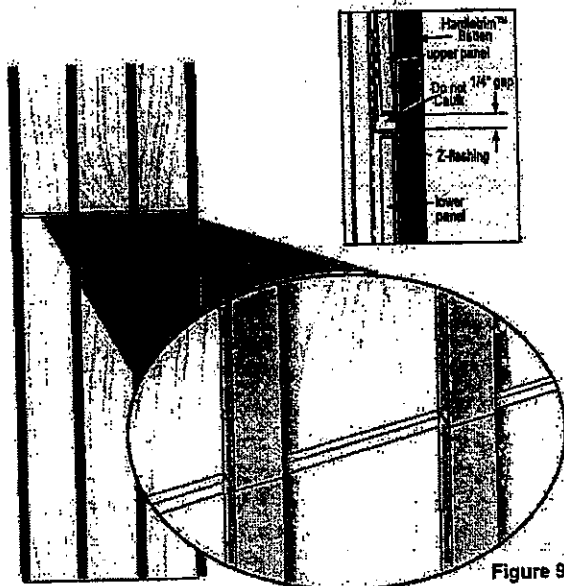


Figure 9

Option 2

Figure 10 - Horizontal Band Board - Install a horizontal band board at the top of the bottom panel. Butt the lower batten to the band board and start the top batten at the bottom edge of the top panel. Maintain a 1/4" clearance above horizontal flashing.

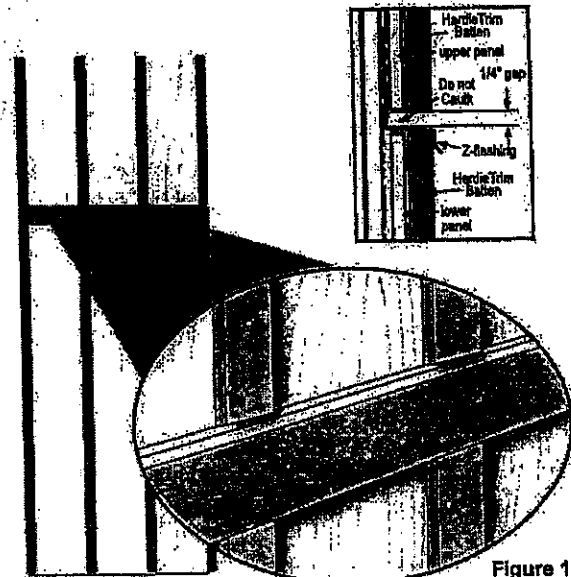


Figure 10

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Manufacturers of ACQ and CA preservative-treated wood recommend spacer materials or other physical barriers to prevent direct contact of ACQ or CA preservative-treated wood and aluminum products. Fasteners used to attach HardieTrim Tabs to preservative-treated wood shall be of hot dipped zinc-coated galvanized steel or stainless steel and in accordance to 2009 IRC R317.3 or 2009 IBC 2304.9.5."



Figure A

PNEUMATIC FASTENING

James Hardie products can be hand nailed or fastened with a pneumatic tool. Pneumatic fastening is highly recommended. Set air pressure so that the fastener is driven snug with the surface of the siding. A flush mount attachment on the pneumatic tool is recommended. This will help control the depth the nail is driven. If setting the nail depth proves difficult, choose a setting that under drives the nail. (Drive under driven nails snug with a smooth faced hammer - Does not apply for installation to steel framing).

- Drive fasteners perpendicular to siding and framing.
- Fastener heads should fit snug against siding (no air space). (fig. A)
- Do not over-drive nail heads or drive nails at an angle.
- If nail is countersunk, fill nail hole and add a nail.
- For wood framing, under driven nails should be hit flush to the trim with a hammer (For steel framing, remove and replace nail).
- Do not use aluminum fasteners, staples, or clipped head nails.



CUT EDGE TREATMENT

Caulk, paint or prime all field cut edges. James Hardie touch-up kits are required to touch-up ColorPlus products.

CAULKING

For best results use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. Note: OSI Quad as well as some other caulking manufacturers do not allow tooling.

PAINTING

DO NOT stain James Hardie® products. James Hardie products must be painted within 180 days for primed product and 90 days for unprimed. 100% acrylic topcoats are recommended. Do not paint when wet. For application rates refer to paint manufacturers specifications. Back-rolling is recommended if the siding is sprayed.

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

- Care should be taken when handling and cutting James Hardie ColorPlus products. At the job-site use a soft cloth to gently wipe any residue or construction dust left on the product.
- Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch-up applicator. Touch-up should be used sparingly. If large areas require touch-up, replace the damaged area with new HardieTrim® batten board with ColorPlus Technology.
- Laminate sheet must be removed immediately after installation.
- Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus® product dealer.
- Treat all other non-factory cut edges using the ColorPlus Technology edge coat, available from your ColorPlus product dealer.

Note: James Hardie does not warrant the usage of third party touch-up or paints used as touch-up on James Hardie ColorPlus products.

Problems with appearance or performance arising from use of third party touch-up paints or paints used as touch-up that are not James Hardie touch-up, will not be covered under the James Hardie ColorPlus Limited Finish Warranty.

PAINTING JAMES HARDIE® SIDING AND TRIM PRODUCTS WITH COLORPLUS TECHNOLOGY

When repainting ColorPlus products, James Hardie recommends the following regarding surface preparation and topcoat application:

- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew
- Repriming is normally not necessary
- 100% acrylic topcoats are recommended
- DO NOT use stain or oil/alkyd base paints on James Hardie® products
- Apply finish coat in accordance with paint manufacturers written instructions regarding coverage, application methods, and application temperature
- DO NOT caulk nail heads when using ColorPlus products, refer to the ColorPlus touch-up section

RECOGNITION: HardieTrim® Battens may be installed as an equal alternative to conventional trim permitted for use in; the 1997 Uniform Building Code, Section 601.5.5; the 1997 Standard Building Code, Section 1404.1; the 1999 BOCA National Building Code, Section 1407.2.2; 2003 International Building Code, Section 1402.1; the 2003 International Residence Code for One - and Two - Family - Dwellings, Section R703.1; the 2003 International Residence Code for One - and Two - Family - Dwellings, Section R703.1; and the 1998 International One-and-Two-Family Dwelling Code, Section 601.1.

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Additional Installation Information,
Warranties, and Warnings are available at
www.jameshardie.com



HardieSoffit[®]

HardieSoffit[®] Panel Products Description

HARDIESOFFIT[®] PANELS

HardieSoffit[®] panels are 8-ft. and 12-ft. long, 1/4-in. thick factory-primed fiber-cement panels designed to be used on the underside of eaves as soffit material. HardieSoffit panels are available as vented or non-vented boards. Vented HardieSoffit panels provide 5 sq. in. of net free ventilation per lineal foot of soffit.

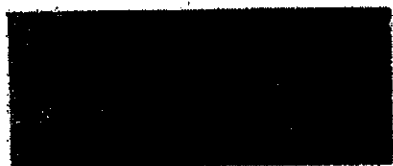
James Hardie offers HardieSoffit panels in a range of time-saving pre-cut widths common to rake and eave applications. HardieSoffit panels come in either a smooth finish or Select Cedarmill[®] textured finish. Check with your local dealer for product availability. HardieSoffit panels can be combined with HardieTrim[®] Fascia boards used for fascia rakes and frieze applications to complete the eaves detailing.

HardieSoffit panels are also available with ColorPlus[®] Technology. The ColorPlus[®] coating is a factory-applied, oven-baked finish available on a variety of James Hardie[®] siding and trim products. See your local dealer for details and availability of products, colors and accessories.

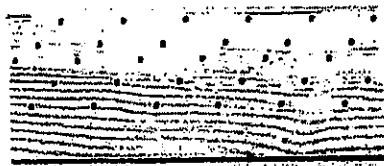
HARDIESOFFIT[®] BEADED PORCH PANEL

HardieSoffit Beaded Porch Panel is a decorative fiber cement panel to be used as ceiling on the underside of porches or eaves as exterior panel materials. HardieSoffit beaded porch panel is 1/4-in. thick, 4 ft. wide, 8 ft. in length, and has 2" OC beads, and comes with PrimePlus[®] factory primer and sealer. Must be finished with 100% acrylic paint. See your local dealer for details and availability of products, colors and accessories.

HardieSoffit Non-Vented - Smooth



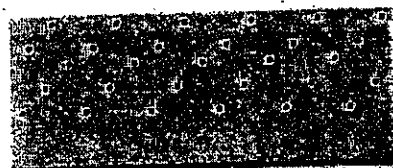
HardieSoffit Non-Vented - Smooth



HardieSoffit Vented - Cedarmill[®]



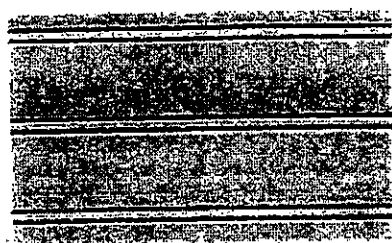
HardieSoffit Vented - Smooth



HardieSoffit Vented - Smooth



HardieSoffit Non-Vented - Cedar-mill[®]



HardieSoffit Beaded Porch Panel



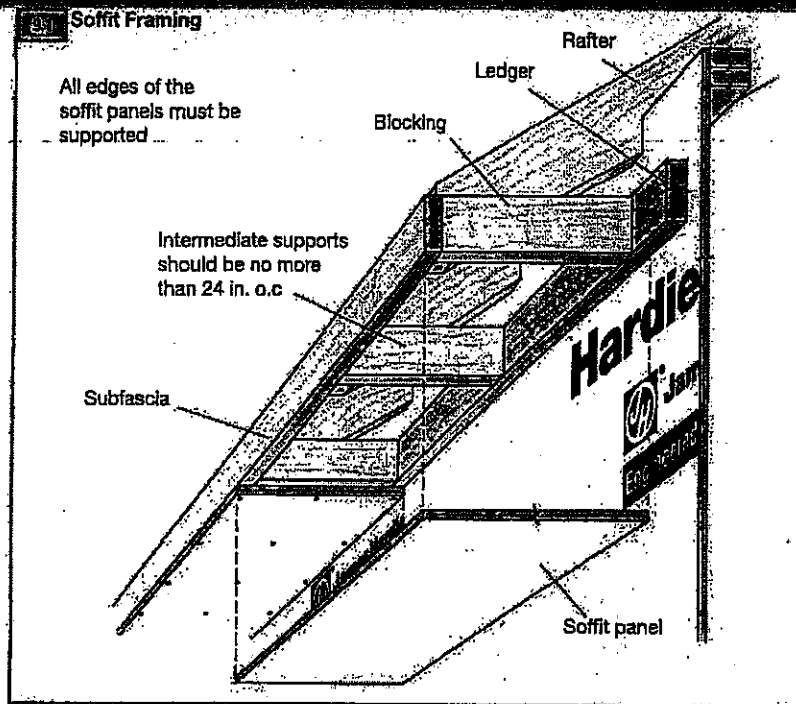
HardieSoffit Beaded Porch Panel

Installation of HardieSoffit® Panels

INSTALLATION OF HARDIESOFFIT PANELS

HardieSoffit® panels must be attached to solid framing such as 2x4 supports spaced no more than 24 in. o.c. For eaves install HardieSoffit panels with the long edge of the panel perpendicular to the ends of the rafters or joists. Eaves framing must include a subfascia, blocking, and/or ledger board to provide solid nailing along the long dimension of the soffit. All panel edges must be supported.

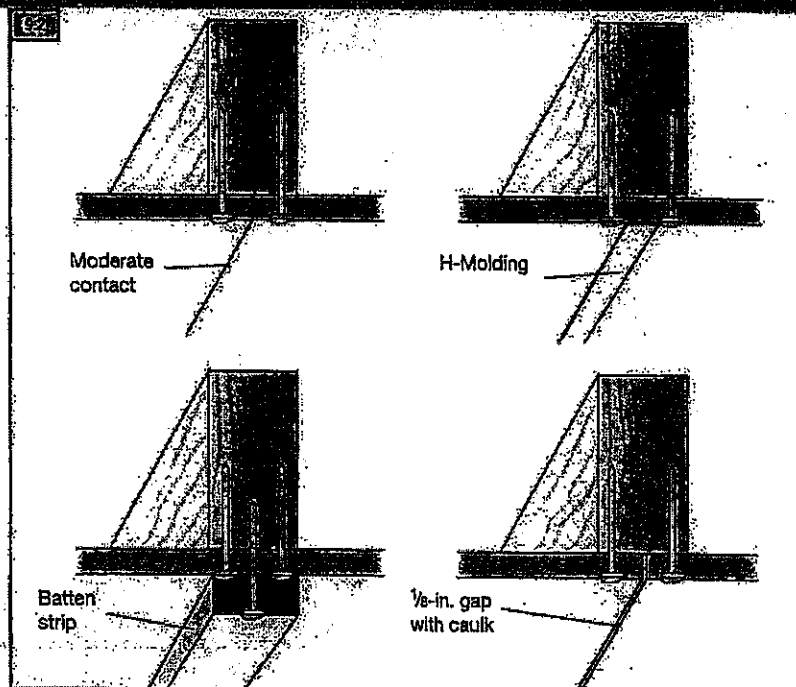
For rake overhangs 2x "look outs" spaced a maximum of 24 in. o.c. should support a rake subfascia to provide adequate nailing for the rake soffit. Blocking between the lookouts provides support for the rake soffit along the building.



TIP: To aid in soffit panel installation, make a "hand" or "kick" post to help hold a panel in position. Factory built posts such as those made for drop installation are available, or they can be fabricated from lumber on the job site.

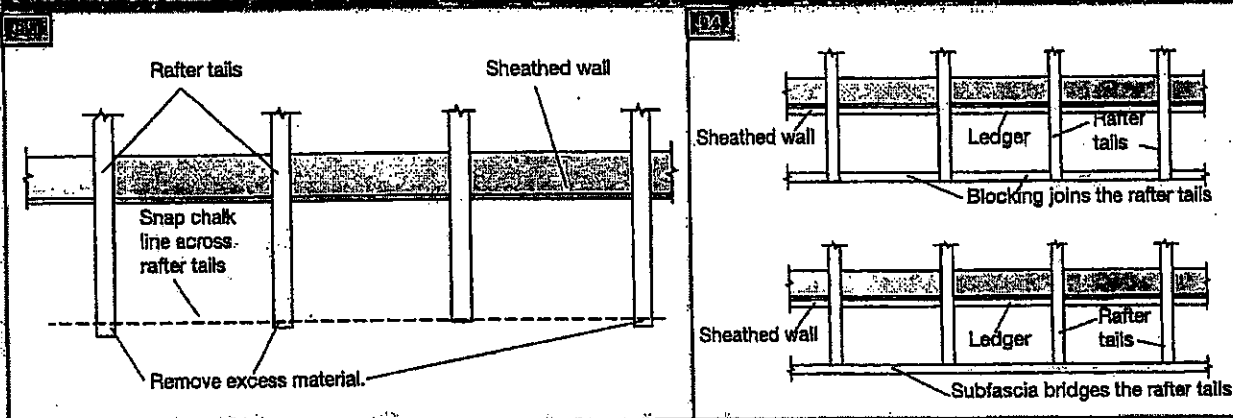
JOINT TREATMENT FOR HARDIESOFFIT PANELS

There are several ways to join the lengths of HardieSoffit panels. Panel ends may be lightly butted in moderate contact, the ends may be gapped $\frac{1}{8}$ in. and caulked, joints can be covered with batten strips, or panels may be joined with PVC or metal H molding type connectors.



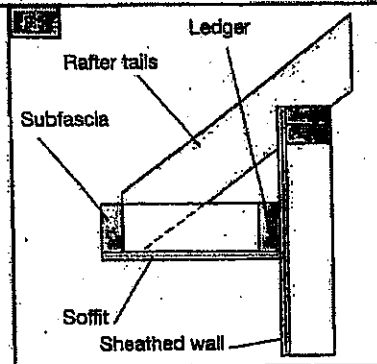
Installation of HardieSoffit® Panels (continued)

FRAMING PREP FOR SOFFIT PANELS



When installing the soffit:

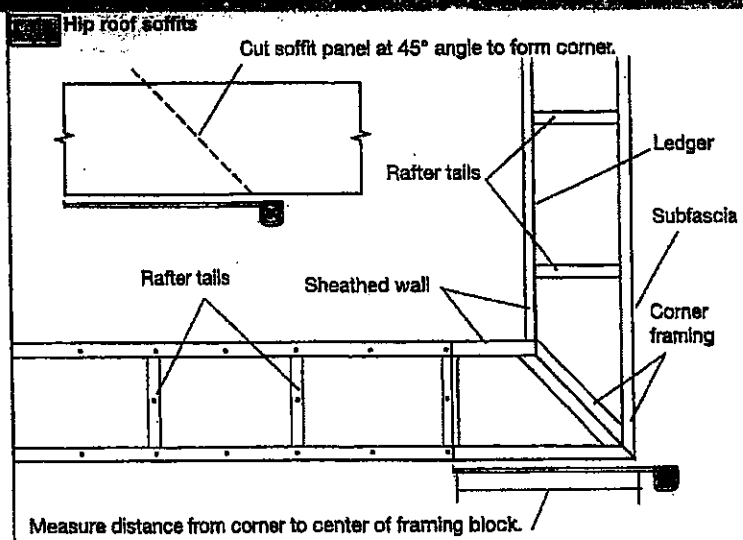
- 1) Straighten the rafter tails by pulling and snapping a chalk line across the ends of the tails and then trimming them as necessary.
- 2) Install a solid wood sub-fascia on the ends of the rafter tails or install blocking between the rafter tails as needed.
- 3) If the soffit is to be installed level across its width, add nailers at every rafter or truss to provide support.
- 4) If the eaves are longer than 12 ft., measure and trim the first HardieSoffit® panel making sure that the end falls in the middle of a nailer.
- 5) Using the subfascia as a guide along the edge, carefully position the panel and secure with 4d common galvanized nails spaced no greater than 8 in. o.c. at all panel edges and on all intermediate framing members.
- 6) Continue with additional pieces until the run is complete.



CUTTING 45° HIP ROOF SOFFITS

Hip roof soffits continue level around the corners of a house. The soffit panels should join at the corner with 45° angle cuts. To create these corners:

- 1) First measure from the corner to the perpendicular framing member closest to, but not over 12 ft.
- 2) Using that measurement and pulling from the factory cut end of the soffit panel, mark the outside edge of the soffit panel for the long point of the 45° cut.
- 3) After cutting the 45° angle, position the panel on the soffit framing and check the fit on both ends before fastening.
- 4) Begin nailing at the 45° cut end and work toward the factory end.



WARNING

When using vented soffit, place the vented section of the panel toward the outside of the eave for optimum airflow.

INSTALLING FRIEZE BOARDS

FRIEZE MADE FROM HARDIETRIM® 5/4, 4/4 BOARDS

When using lap and shingle sidings, install HardieTrim 5/4, 4/4 boards as a frieze board before putting in the siding. Then run courses of siding up to the frieze board and caulk the junction of the frieze board and siding. In a building sided with HardiePanel siding, the frieze board is commonly over the panel siding. If joints in the HardieTrim 5/4, 4/4 boards frieze are necessary for longer runs, join boards with a bevel cut. Nail the frieze board every 16 in. using finish or siding nails.



TREATMENT OPTIONS FOR THE SIDING/SOFFIT JUNCTURE

In addition to the frieze board treatments described above, there are several other options for finishing the juncture where the siding meets the soffit.

CAULK THE SIDING/SOFFIT JOINT

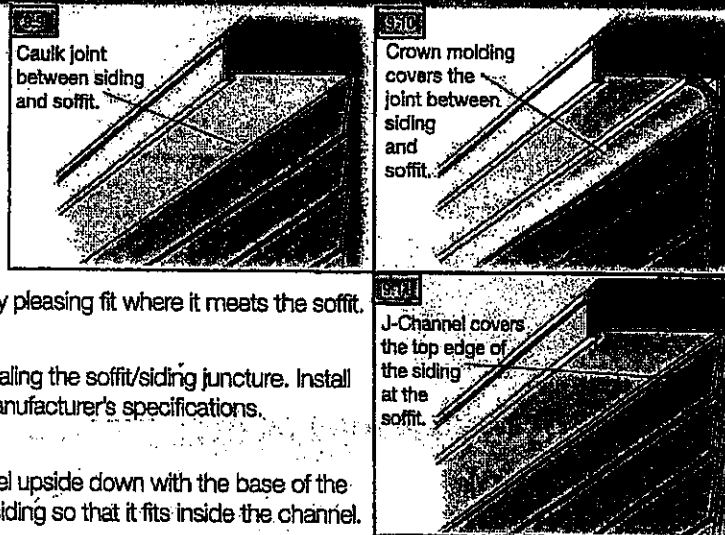
A fast and economical method of finishing the siding/soffit juncture is simply to run a bead of quality caulk along the top edge of the siding where it meets the soffit. A straight rip cut along the top edge of the siding ensures an aesthetically pleasing fit where it meets the soffit.

INSTALL CROWN MOLDING

Crown molding is another way of finishing and sealing the soffit/siding juncture. Install and finish the crown molding according to the manufacturer's specifications.

OVER THE TOP OF THE SIDING WITH 'J' CHANNEL

Once the soffit is in place, install a vinyl "J" channel upside down with the base of the "J" against the soffit. Then rip the final course of siding so that it fits inside the channel.



INSECT SCREEN

In areas where additional insect protection is desired, a screen may be applied to the back side of the panel prior to soffit installation. After the screen type and size is selected, cut the screen to fit so that it covers the vent holes and overlaps the non-vented area of the soffit by 1 in. to 2 in. Secure the screen to the backside of the soffit panel using a bead of construction adhesive.

TIP: Stainless steel fasteners are recommended when installing James Hardie® products.

HARDIESOFFIT® PANEL FASTENER SPECIFICATIONS

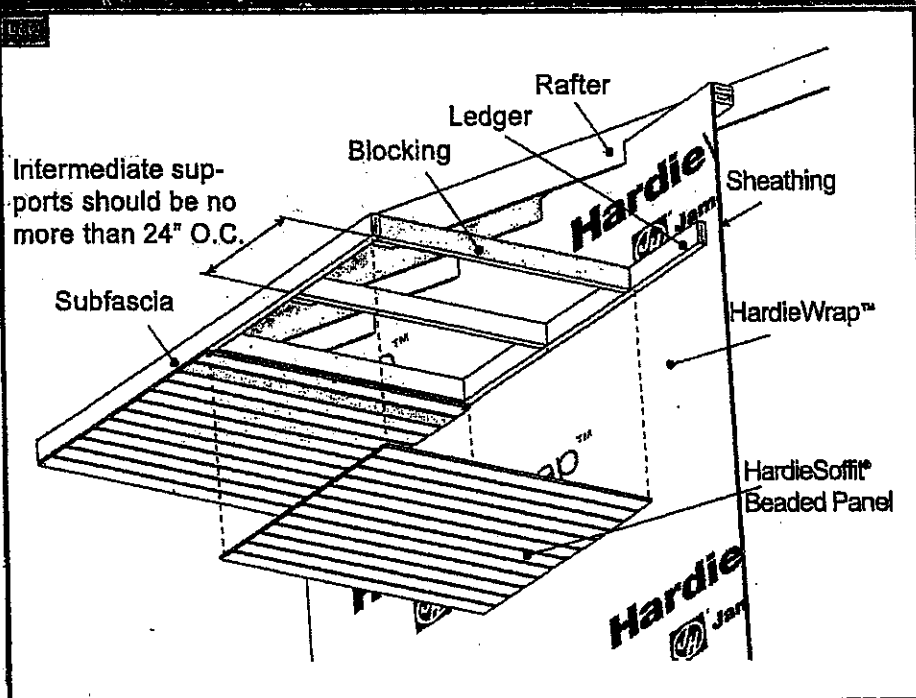
Fastening Substrate	Approved Fastener	Fastening Types
wood studs	16" o.c.	1 4d
	22.5" o.c.	6 ring shank siding nail
	24" o.c.	7 Ribbed Bugle-Head No. 8
steel studs	16" o.c.	7 Ribbed Bugle-Head No. 8

WARNING
Please note that the addition of an insect screen reduces the total amount of vent area of the soffit depending on the size screen used.

Installation of HardieSoffit Beaded Porch Panels

BEADED PORCH PANEL INSTALLATION

HardieSoffit Beaded Porch Panel must be attached to either steel or wood normal 2x4-framing members spaced a maximum 24 in on center. All edges must be supported by framing.

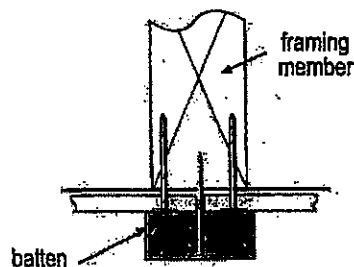
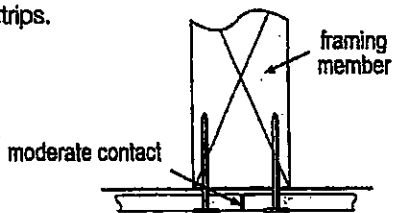


TIP: Always use a 1/4" x 4" x 8" piece of wood to support the panel at the end of the rafter.

JOINT TREATMENT FOR BEADED PORCH PANEL

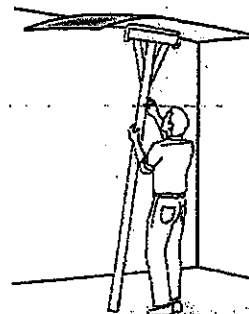
There are several ways to treat the joints of HardieSoffit beaded porch panels. The panel edges can be butted in moderate contact, leave a gap and caulk; or joints can be covered with HardieTrim batten strips.

TIP: Do not use a batten strip to cover the joint of HardieSoffit Beaded Porch Panel installation.



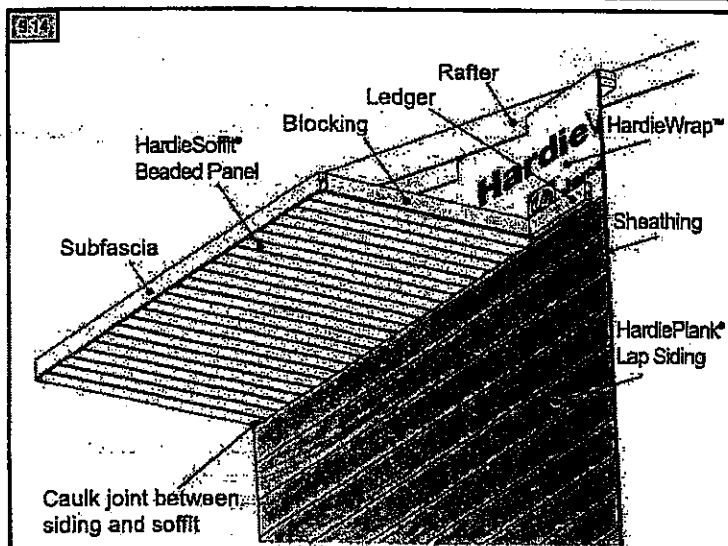
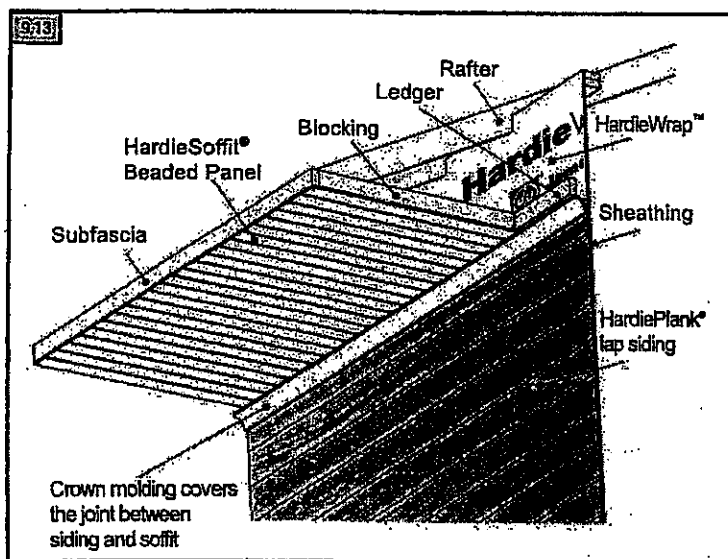
HANDLING DURING INSTALLATION

Special precautions may be needed for carrying the panel during installation because of its larger size. James Hardie recommends the use of a T shape frame to support the panel during installation.



SIDING/BEADED PORCH PANEL JOINT

A fast and economical method of finishing the siding/porch panel juncture is simply to run a bead of quality caulk along the top edge of the siding where it meets the soffit. A straight rip cut along the top edge of the siding ensures an aesthetically pleasing fit where it meets the beaded porch panel.



HardieSoffit® **HL5** Panels

INSTALLATION REQUIREMENTS - PRIMED & COLORPLUS® PRODUCTS



James Hardie

EFFECTIVE NOVEMBER 2012

Visit www.jameshardie.com for the most recent version.

IMPORTANT: FAILURE TO INSTALL AND FINISH THIS PRODUCT IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND JAMES HARDIE WRITTEN APPLICATION INSTRUCTIONS MAY LEAD TO PERSONAL INJURY, AFFECT SYSTEM PERFORMANCE, VIOLATE LOCAL BUILDING CODES, AND VOID THE PRODUCT ONLY WARRANTY. BEFORE INSTALLATION, CONFIRM THAT YOU ARE USING THE CORRECT HARDIEZONE INSTRUCTIONS. TO DETERMINE WHICH HARDIEZONE APPLIES TO YOUR LOCATION, VISIT WWW.HARDIEZONE.COM OR CALL 1-866-942-7343 (866 9HARDIE)

STORAGE & HANDLING:

Store flat and keep dry and covered prior to installation. Installing siding wet or saturated may result in shrinkage at butt joints. Carry product on edge. Protect edges and corners from breakage. James Hardie is not responsible for damage caused by improper storage and handling of the product.



CUTTING INSTRUCTIONS

OUTDOORS

1. Position cutting station so that wind will blow dust away from user and others in working area.
2. Use one of the following methods:
 - a. Best: 1. Score and snap
2. Shears (manual, electric or pneumatic)
 - b. Better: 1. Dust reducing circular saw equipped with a HardieBlade® saw blade and HEPA vacuum extraction
 - c. Good: 1. Dust reducing circular saw with a HardieBlade saw blade (only use for low to moderate cutting)

INDOORS

1. Cut only using score and snap, or shears (manual, electric or pneumatic).
2. Position cutting station in well-ventilated area

- NEVER use a power saw indoors
- NEVER use a circular saw blade that does not carry the HardieBlade saw blade trademark
- NEVER dry sweep - Use wet suppression or HEPA Vacuum

Important Note: For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best"-level cutting methods where feasible.

NIOSH-approved respirators can be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at www.jameshardie.com to help you determine the most appropriate cutting method for your job requirements. If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

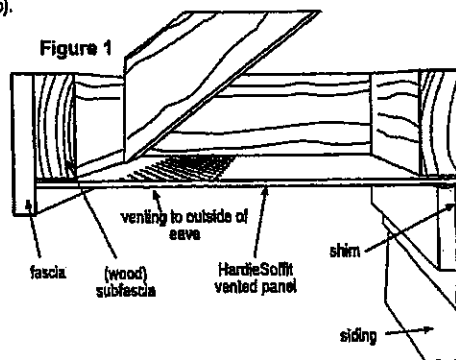
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GENERAL REQUIREMENTS:

- HardieSoffit® panels may be installed over either steel or wood framing complying with the local building code. See General Fastening Requirements. Install soffits to nominal 2 x 4 framing members spaced a maximum of 24 inches on center (fig. 4).
- All edges must be supported by framing. (figs. 3 & 4)
- Install water barriers and air barriers as required by local building codes. James Hardie will assume no responsibility for moisture infiltration.
- Ensure gutters have end caps. Maintain a minimum 1" gap between end caps and siding & trim (fig. 5).
- Install kickout flashing at roof-wall junctions. (fig. 6)
- DO NOT use stain on James Hardie® products.

INSTALLATION:

- HardieSoffit panels must be fastened to a solid, nailable substrate such as a wood 2x subfascia.
- Additional framing may be needed to ensure proper fastening.
- Soffits can be installed as shown in figure 1. Position the vent holes toward the outside of the eave for optimal airflow.
- 12" to 24" wide Vented HardieSoffit panels, provide 5.0 square inches of net free ventilation per lineal foot.
- Alternatively vents can be installed into non-vented soffit.
- If necessary, an insect screen can be installed using construction adhesive.
- Note: net free ventilation will be reduced.



Fastener Requirements

- Position fasteners 3/8" from panel edges and no closer than 2" away from corners when using soffit greater than 12" wide (fig. 4) and no closer than 1" away from corners when using soffit that is less than or equal to 12" wide (fig. 3).

Joining Methods

- Install panels in moderate contact at ends, provide PVC or metal jointers, battens or leave appropriate gap and caulk (fig. 2).

Figure 2

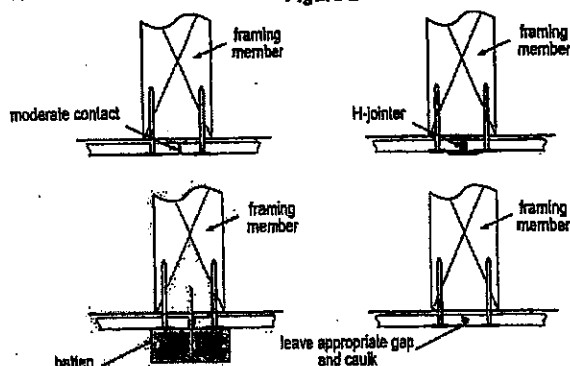


Figure 3

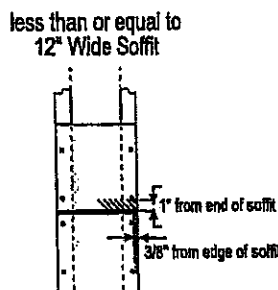
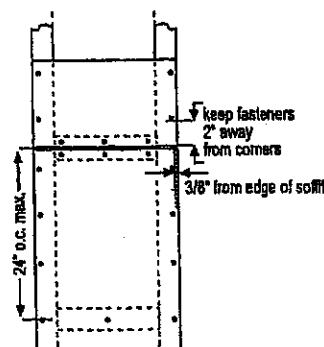


Figure 4

Greater than 12" Wide Soffit



For additional information on HardieWrap™ Weather Barrier, consult James Hardie at 1-866-4Hardie or www.hardiewrap.com

WARNING: AVOID BREATHING SILICA DUST

James Hardie® products contain respirable crystalline silica, which is known to the State of California to cause cancer and is considered by IARC and NIOSH to be a cause of cancer from some occupational sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) use fiber cement shears for cutting or, where not feasible, use a HardieBlade saw blade and dust-reducing circular saw attached to a HEPA vacuum; (3) warn others in the immediate area; (4) wear a properly-fitted, NIOSH-approved dust mask or respirator (e.g. N-95) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods - never dry sweep. For further information, refer to our installation instructions and Material Safety Data Sheet available at www.jameshardie.com or by calling 1-800-9HARDIE (1-800-942-7343). FAILURE TO ADHERE TO OUR WARNINGS, MSDS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

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Maintain a minimum 1" gap between gutter end caps and siding & trim.

Figure 5

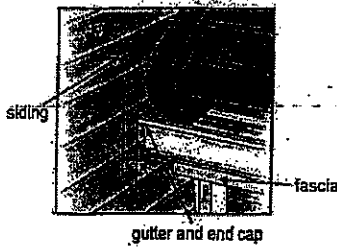
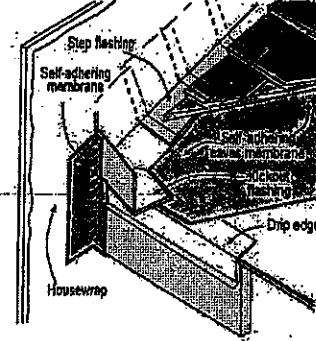


Figure 6



KICKOUT FLASHING

Because of the volume of water that can pour down a sloped roof, one of the most critical flashing details occurs where a roof intersects a sidewall. The roof must be flashed with step flashing. Where the roof terminates, install a kickout to deflect water away from the siding. It is best to install a self-adhering membrane on the wall before the subfascia and trim boards are nailed in place, and then come back to install the kickout.

Figure 6, Kickout Flashing To prevent water from dumping behind the siding and the end of the roof intersection, install a "kickout" as required by IRC code R905.2.8.3 : "...flashing shall be a min. of 4" high and 4" wide." James Hardie recommends the kickout be angled between 100° - 110° to maximize water deflection

FASTENER REQUIREMENTS

- For wood frame construction a minimum 4d common nails spaced 8" o.c. at panel edges and intermediate framing members spaced up to 24" on center are suitable in most locations*.
- For conventional 20ga steel frame construction a minimum No. 8-18 x 0.323" HD x 1" long ribbed bugle screws spaced 6" o.c. at panel edges and intermediate framing members spaced up to 24" on center are suitable in most locations*.

*Minimum Basic Wind Speed differs by locality. Where specified levels of wind resistance are required, refer to applicable Building Code Compliance Reports.

Manufacturers of ACQ and CA preservative-treated wood recommend spacer materials or other physical barriers to prevent direct contact of ACQ or CA preservative-treated wood and aluminum products. Fasteners used to attach HardieTrim Tabs to preservative-treated wood shall be of hot dipped zinc-coated galvanized steel or stainless steel and in accordance to 2009 IRC R317.3 or 2009 IBC 2304.9.5."

PNEUMATIC FASTENING

James Hardie products can be hand nailed or fastened with a pneumatic tool. Pneumatic fastening is highly recommended. Set air pressure so that the fastener is driven snug with the surface of the siding. A flush mount attachment on the pneumatic tool is recommended. This will help control the depth the nail is driven. If setting the nail depth proves difficult, choose a setting that under drives the nail. (Drive under driven nails snug with a smooth faced hammer - Does not apply for installation to steel framing).

GENERAL FASTENING REQUIREMENTS

Fasteners must be corrosion resistant, galvanized, or stainless steel. Electro-galvanized are acceptable but may exhibit premature corrosion. James Hardie recommends the use of quality, hot-dipped galvanized nails. James Hardie is not responsible for the corrosion resistance of fasteners. Stainless steel fasteners are recommended when installing James Hardie® products near the ocean, large bodies of water, or in very humid climates..

- Consult product evaluation or listing for correct fasteners type and placement to achieve specified design wind loads.
- NOTE: Published wind loads may not be applicable to all areas where Local Building Codes have specific jurisdiction. Consult James Hardie Technical Services if you are unsure of applicable compliance documentation.
- Drive fasteners perpendicular to siding and framing.
- Fastener heads should fit snug against siding (no air space). (fig. A)
- Do not over-drive nail heads or drive nails at an angle.
- If nail is countersunk, fill hole and add a nail. (fig. B)
- For wood framing, under driven nails should be hit flush to the plank with a hammer (For steel framing, remove and replace nail).
- Do not use aluminum fasteners, staples, or clipped head nails.



Figure A



Countersink, Fill & Add Nail
Figure B



do not under drive nails



DO NOT STAPLE

CUT EDGE TREATMENT

Caulk, paint or prime all field cut edges. James Hardie touch-up kits are required to touch-up ColorPlus products.

CAULKING

For best results use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. **Note: OSI Quad as well as some other caulking manufacturers DO NOT allow tooling.**

PAINTING

DO NOT use stain on James Hardie® products. James Hardie products must be painted within 180 days for primed product and 90 days for unprimed. 100% acrylic topcoats are recommended. Do not paint when wet. For application rates refer to paint manufacturers specifications. Back-rolling is recommended if the siding is sprayed.

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

- Care should be taken when handling and cutting James Hardie ColorPlus products. At the job-site use a soft cloth to gently wipe any residue or construction dust left on the product.
- Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch-up applicator. Touch-up should be used sparingly. If large areas require touch-up, replace the damaged area with new HardieSoffit® panel with ColorPlus Technology.
- Laminate sheet must be removed immediately after installation of each course.
- Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus dealer.
- Treat all other non-factory cut edges using the ColorPlus Technology edge coat, available from your ColorPlus® product dealer.

Note: James Hardie does not warrant the usage of third party touch-up or paints used as touch-up on James Hardie ColorPlus products.

Problems with appearance or performance arising from use of third party touch-up paints or paints used as touch-up that are not James Hardie touch-up, will not be covered under the James Hardie ColorPlus Limited Finish Warranty.

PAINTING JAMES HARDIE® PRODUCTS WITH COLORPLUS® TECHNOLOGY

When repainting ColorPlus products, James Hardie recommends the following regarding surface preparation and topcoat application:

- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew
- Repriming is normally not necessary
- 100% acrylic topcoats are recommended
- DO NOT use stain or oil/alkyd base paints on James Hardie® products
- Apply finish coat in accordance with paint manufacturers written instructions regarding coverage, application methods, and application temperature
- DO NOT caulk nail heads when using ColorPlus products, refer to the ColorPlus touch-up section

RECOGNITION: In accordance with ICC-ES Legacy Report NER-405, HardieSoffit panel is recognized as a suitable alternate to that specified in: the BOCA National Building Code/1999, the 1997 Standard Building Code, the 1997 Uniform Building Code, the 1998 International One- and Two-Family Dwelling Code, the 2003 International Building Code, and the 2003 International Residential Code for One- and Two-Family Dwellings. HardieSoffit panel is also recognized for application in the following: City of Los Angeles Research Report No. 24862, State of Florida listing FL#888, Dade County, Florida NOA No. 02-0729.02, U.S. Dept. of HUD Materials Release 1263c, Texas Department of Insurance Product Evaluation EC-23, City of New York MEA 223-93-M, and California DSA PA-018. These documents should also be consulted for additional information concerning the suitability of this product for specific applications.

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Additional Installation Information,
Warranties, and Warnings are available at
www.jameshardie.com



HardieSoffit® **HL5** Beaded Porch Panels

INSTALLATION REQUIREMENTS - PRIMED & COLORPLUS® PRODUCTS



James Hardie

EFFECTIVE NOVEMBER 2012

Visit www.jameshardie.com for the most recent version.

IMPORTANT: FAILURE TO INSTALL AND FINISH THIS PRODUCT IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND JAMES HARDIE WRITTEN APPLICATION INSTRUCTIONS MAY LEAD TO PERSONAL INJURY, AFFECT SYSTEM PERFORMANCE, VIOLATE LOCAL BUILDING CODES, AND VOID THE PRODUCT ONLY WARRANTY. BEFORE INSTALLATION, CONFIRM THAT YOU ARE USING THE CORRECT HARDIEZONE INSTRUCTIONS. INSTALLATION OF HZ10® PRODUCTS OUTSIDE AN HZ10® LOCATION WILL VOID YOUR WARRANTY. TO DETERMINE WHICH HARDIEZONE APPLIES TO YOUR LOCATION, VISIT WWW.HARDIEZONE.COM OR CALL 1-866-942-7343 (866 9HARDIE)

STORAGE & HANDLING:

Store flat and keep dry and covered prior to installation. Installing siding wet or saturated may result in shrinkage at butt joints. Carry product on edge. Protect edges and corners from breakage. James Hardie is not responsible for damage caused by improper storage and handling of the product.



CUTTING INSTRUCTIONS

OUTDOORS

1. Position cutting station so that wind will blow dust away from user and others in working area.
2. Use one of the following methods:
 - a. Best:
 - i. Score and snap
 - ii. Shears (manual, electric or pneumatic)
 - b. Better:
 - i. Dust reducing circular saw equipped with a HardieBlade® saw blade and HEPA vacuum extraction
 - c. Good:
 - i. Dust reducing circular saw with a HardieBlade saw blade (only use for low to moderate cutting)

INDOORS

1. Cut only using score and snap, or shears (manual, electric or pneumatic).
 2. Position cutting station in well-ventilated area
- NEVER use a power saw indoors
 - NEVER use a circular saw blade that does not carry the HardieBlade saw blade trademark
 - NEVER dry sweep - Use wet suppression or HEPA Vacuum

Important Note: For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best"-level cutting methods where feasible.

NIOSH-approved respirators can be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at www.jameshardie.com to help you determine the most appropriate cutting method for your job requirements. If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

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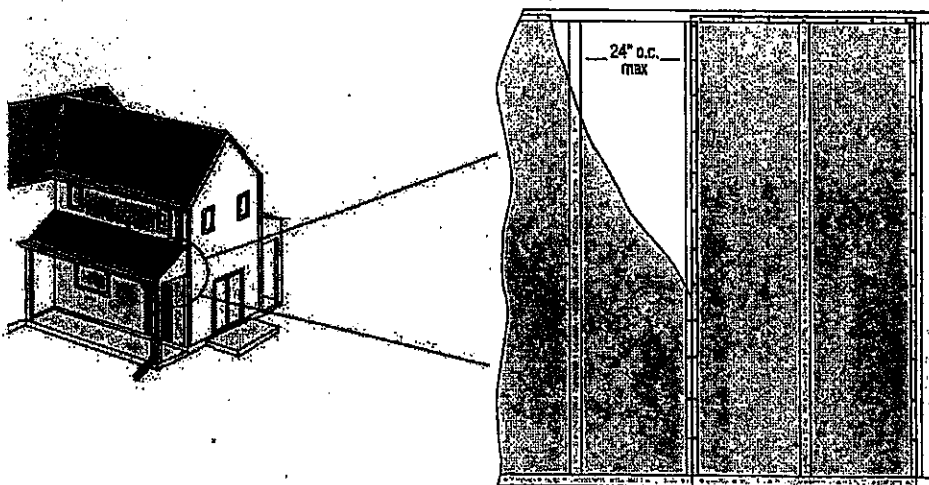
GENERAL REQUIREMENTS:

- HardieSoffit® beaded porch panels may be installed as a soffit or ceiling over either steel or wood framing complying with the local building code. Install soffits to nominal 2 x 4 framing members spaced a maximum of 24 inches on center (fig.1), with the long dimension perpendicular to the rafter or joist framing.
- All edges must be supported by framing. (fig. 1)
- Install water barriers and air barriers as required by local building codes. James Hardie will assume no responsibility for moisture infiltration.
- DO NOT use stain on James Hardie® products.
- Ensure gutters have end caps. Maintain a minimum 1" gap between end caps and siding & trim (fig.5).
- Install Kickout Flashing at roof-wall junctions. (fig.6.)
- DO NOT use finish nails.

INSTALLATION:

- HardieSoffit beaded porch panels must be fastened to a solid, nailable substrate such as wood.
- Additional framing may be needed to ensure proper fastening.
- Panels can be installed as shown in figure 1.

Figure 1



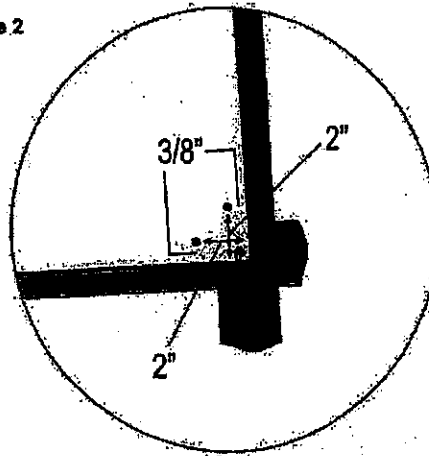
WARNING: AVOID BREATHING SILICA DUST

James Hardie® products contain respirable crystalline silica, which is known to the State of California to cause cancer and is considered by IARC and NIOSH to be a cause of cancer from some occupational sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) use fiber cement shears for cutting or, where not feasible, use a HardieBlade® saw blade and dust-reducing circular saw attached to a HEPA vacuum; (3) warn others in the immediate area; (4) wear a properly-fitted, NIOSH-approved dust mask or respirator (e.g. N-95) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods - never dry sweep. For further information, refer to our Installation Instructions and Material Safety Data Sheet available at www.jameshardie.com or by calling 1-800-9HARDIE (1-800-942-7343). FAILURE TO ADHERE TO OUR WARNINGS, MSDS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

Fastener Requirements

- Position fasteners 3/8" from panel edges and no closer than 2" away from corners (Figure 2).

Figure 2



Joining Methods

- Panel ends are to be butted together as shown in Figure 3.
- Install panels in moderate contact at ends with or without battens (Figure 4).

Figure 3

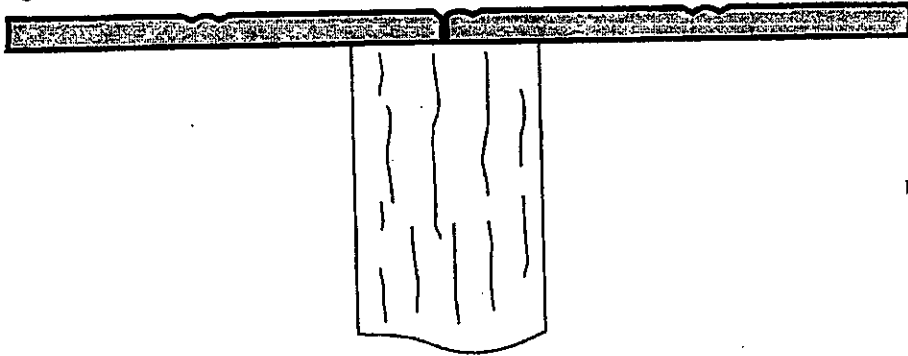
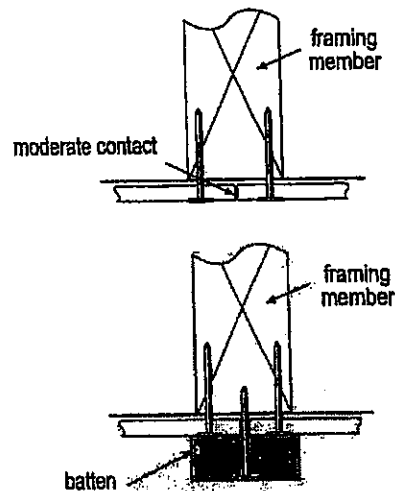


Figure 4

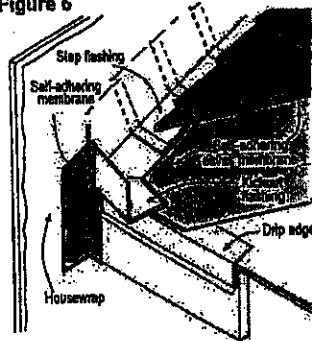


Maintain a minimum 1" gap between gutter end caps and siding & trim.

Figure 5



Figure 6



KICKOUT FLASHING

Because of the volume of water that can pour down a sloped roof, one of the most critical flashing details occurs where a roof intersects a sidewall. The roof must be flashed with step flashing. Where the roof terminates, install a kickout to deflect water away from the siding.

It is best to install a self-adhering membrane on the wall before the subfascia and trim boards are nailed in place, and then come back to install the kickout.

Figure 6, Kickout Flashing* To prevent water from dumping behind the siding and the end of the roof intersection, install a "kickout" as required by IRC code R905.2.8.3 : "...flashing shall be a min. of 4" high and 4" wide." James Hardie recommends the kickout be angled between 100° - 110° to maximize water deflection

* The illustration (figure 6) was reprinted with permission of THE JOURNAL OF LIGHT CONSTRUCTION. For subscription information, visit www.jlconline.com.

FASTENER REQUIREMENTS

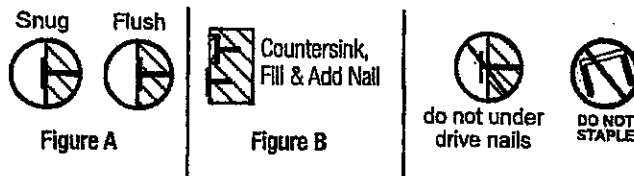
- For wood frame construction a minimum 4d common nails spaced 8" o.c. at panel edges and intermediate framing members spaced up to 24" on center are suitable in most locations*.
- For conventional 20ga steel frame construction a minimum No. 8-18 x 0.323" HD x 1" long ribbed bugle screws spaced 6" o.c. at panel edges and intermediate framing members spaced up to 24" on center are suitable in most locations*.
- * Minimum Basic Wind Speed differs by locality. Where specified levels of wind resistance are required, refer to applicable Building Code Compliance Reports.

GENERAL FASTENING REQUIREMENTS

Fasteners must be corrosion resistant, galvanized, or stainless steel. Electro-galvanized are acceptable but may exhibit premature corrosion. James Hardie recommends the use of quality, hot-dipped galvanized nails. James Hardie is not responsible for the corrosion resistance of fasteners. Stainless steel fasteners are recommended when installing James Hardie® products near the ocean, large bodies of water, or in very humid climates.

Manufacturers of ACQ and CA preservative-treated wood recommend spacer materials or other physical barriers to prevent direct contact of ACQ or CA preservative-treated wood and aluminum products. Fasteners used to attach HardieTrim Tabs to preservative-treated wood shall be of hot dipped zinc-coated galvanized steel or stainless steel and in accordance to 2009 IRC R317.3 or 2009 IBC 2304.9.5."

- Consult applicable code compliance report for correct fasteners type and placement to achieve specified design wind loads.
- NOTE: Published wind loads may not be applicable to all areas where Local Building Codes have specific jurisdiction. Consult James Hardie Technical Services if you are unsure of applicable compliance documentation.
- Drive fasteners perpendicular to siding and framing.
- Fastener heads should fit snug against siding (no air space). (fig. A)
- Do not over-drive nail heads or drive nails at an angle.
- If nail is countersunk, fill hole and add a nail. (fig. B)
- For wood framing, under driven nails should be hit flush to the plank with a hammer (For steel framing, remove and replace nail).
- Do not use aluminum fasteners, staples, or clipped head nails.



PNEUMATIC FASTENING

James Hardie products can be hand nailed or fastened with a pneumatic tool. Pneumatic fastening is highly recommended. Set air pressure so that the fastener is driven snug with the surface of the siding. A flush mount attachment on the pneumatic tool is recommended. This will help control the depth the nail is driven. If setting the nail depth proves difficult, choose a setting that under drives the nail. (Drive under driven nails snug with a smooth faced hammer - Does not apply for installation to steel framing).

CUT EDGE TREATMENT

Caulk, paint or prime all field cut edges. James Hardie touch-up kits are required to touch-up ColorPlus products.

CAULKING

For best results use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. Note: OSI Quad as well as some other caulking manufacturers do not allow tooling.

PAINTING

DO NOT use stain on James Hardie products.

James Hardie products must be painted within 180 days for primed product and 90 days for unprimed. 100% acrylic topcoats are recommended. Do not paint when wet. For application rates refer to paint manufacturers specifications. Back-rolling is recommended if the siding is sprayed.

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

- Care should be taken when handling and cutting James Hardie ColorPlus products. At the job-site use a soft cloth to gently wipe any residue or construction dust left on the product
- Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch-up applicator. Touch-up should be used sparingly. If large areas require touch-up, replace the damaged area with new HardiePlank® lap siding with ColorPlus® Technology.
- Laminate sheet must be removed immediately after installation of each course.
- Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus® product dealer.
- Treat all other non-factory cut edges using the ColorPlus Technology edge coat, available from your ColorPlus product dealer.

Note: James Hardie does not warrant the usage of third party touch-up or paints used as touch-up on James Hardie ColorPlus products.

Problems with appearance or performance arising from use of third party touch-up paints or paints used as touch-up that are not James Hardie touch-up, will not be covered under the James Hardie ColorPlus Limited Finish Warranty.

PAINTING JAMES HARDIE® PRODUCTS WITH COLORPLUS® TECHNOLOGY

When repainting ColorPlus products, James Hardie recommends the following regarding surface preparation and topcoat application:

- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew.
- Repriming is normally not necessary.
- 100% acrylic topcoats are recommended.
- DO NOT use stain or oil/alkyd base paints on James Hardie products.
- Apply finish coat in accordance with paint manufacturers written instructions regarding coverage, application methods, and application temperature.
- DO NOT caulk nail heads when using ColorPlus products, refer to the ColorPlus touch-up section.

RECOGNITION: In accordance with ICC-ES Legacy Report NER-405, HardieSoffit® panel is recognized as a suitable alternate to that specified in: the BOCA National Building Code/1999, the 1997 Standard Building Code, the 1997 Uniform Building Code, the 1998 International One- and Two-Family Dwelling Code, the 2003 International Building Code, and the 2003 International Residential Code for One and Two Family Dwellings. HardieSoffit panel is also recognized for application in the following: City of Los Angeles Research Report No. 24862, State of Florida listing FL#889, Dade County, Florida NOA No. 02-0729.02, U.S. Dept. of HUD Materials Release 1263c, Texas Department of Insurance Product Evaluation EG-23, City of New York MEA 223-93-M, and California DSA PA-019. These documents should also be consulted for additional information concerning the suitability of this product for specific applications.

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Please visit www.jameshardie.com
for Additional Product Information and
Availability, Installation Information,
Warnings, and Warranties



JamesHardie

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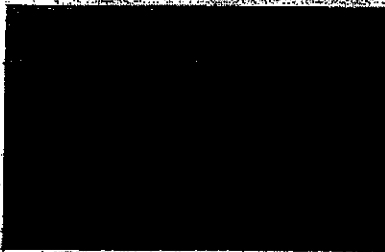
HardiePlank

HardiePlank® Lap Siding Product Description

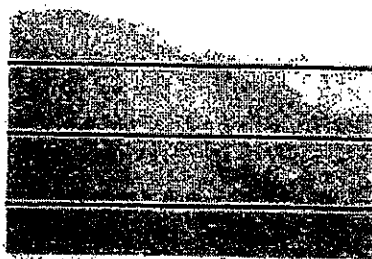
HardiePlank® lap siding is factory-primed fiber-cement lap siding available in a variety of styles and textures. Please see your local James Hardie® product dealer for product availability. HardiePlank lap siding comes in 12-ft. lengths. Nominal widths from 5 1/4 in. to 12 in. create a range of exposures from 4 in. to 10 3/4 in.

HardiePlank lap siding is also available with ColorPlus® Technology as one of James Hardie's prefinished products. ColorPlus® Technology is a factory applied, oven-baked finish available on a variety of James Hardie siding and trim products. See your local dealer for details and availability of products, colors, and accessories.

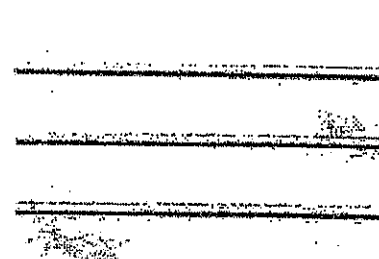
The HZ5® product line is right at home in climates with freezing temperatures, seasonal temperature variations, snow and ice. HZ5® boards are the result of our generational evolution of our time-tested products. We've evolved our substrate composition to be specifically designed to perform in conditions found in these climates. To ensure that its beauty matches its durability, we've engineered the surface for higher performance, giving it superior paint adhesion and moisture resistance. In addition, we've added a drip edge to the HardiePlank® HZ5® lap siding product to provide improved water management in conditions specific to HZ5® climates.



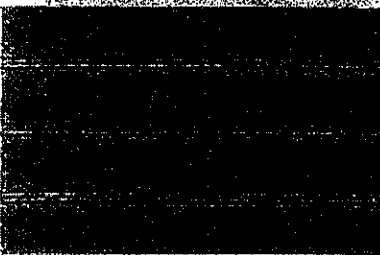
Cedarmill®



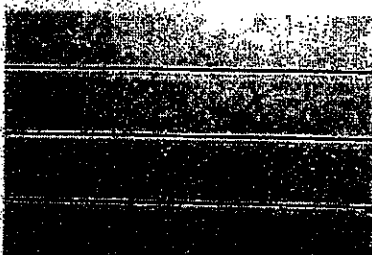
Smooth



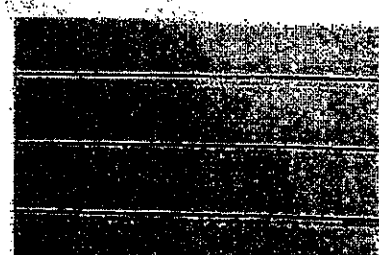
Beaded Cedarmill®



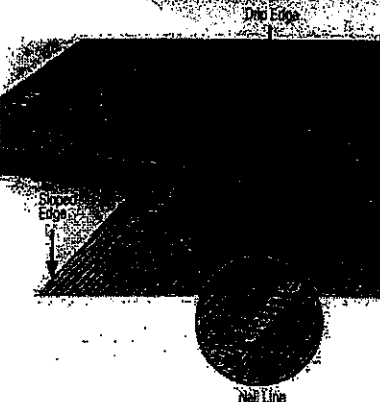
Beaded Smooth



Colonial Roughsawn



Colonial Smooth

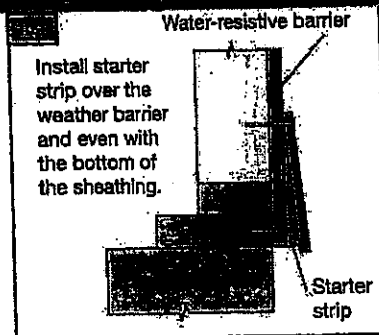


Installation of HardiePlank® Lap Siding

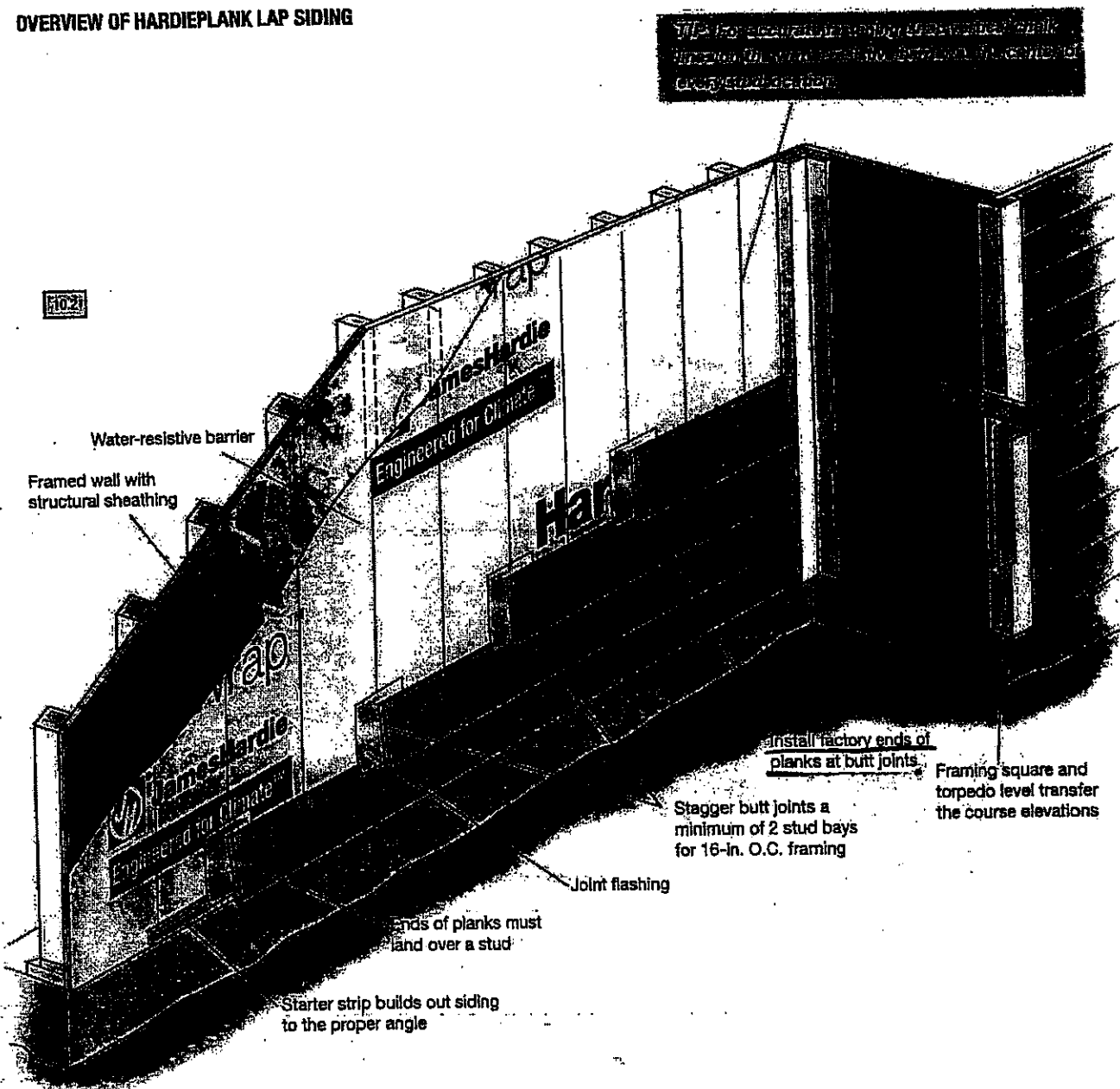
INSTALL A STARTER STRIP

HardiePlank® lap siding requires a starter strip beneath the first course to set it on the proper angle and to create a proper drip edge at the bottom of the siding. Starter strips are easily made by ripping $1\frac{1}{4}$ -in. pieces of HardiePlank siding from full or partial planks.

The bottom of the starter strip should be installed even with the bottom of the mudsill or the bottom edge of the sheathing. The strip must be installed over the water-resistive barrier, but occasional gaps should be left in the starter strip to allow accumulated moisture behind the siding to drain away safely.



OVERVIEW OF HARDIEPLANK LAP SIDING



Information

Fastenýng

- ## Requirements

Requirements

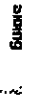
- REFERENCES**

OF THE UNITED STATES OF AMERICA



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1000



Installation of HardiePlank® Lap Siding (continued)

HANDLING

IMPORTANT: To prevent damage to the drip edge, extra care should be taken when removing planks from the pallet, while handling, and when installing with a lap gauge. Planks are interlocked together on the pallet, therefore they should be removed from the pallet horizontally (side to side) to allow planks to unlock themselves from one another.

Pull from across the stack

Do not go down the stack

TIP: When taking planks from the pallet installation, avoid repeating the texture pattern by working across the pallet. Two to four planks can be removed from a stack at one time. But then material should be taken from adjacent stacks, again working across the pallet. Texture repeat is typically a concern on large walls with few breaks, such as windows or doors.

BLIND NAILING (nailing through top of plank)

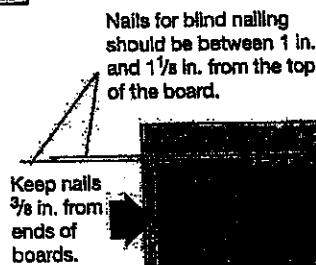
Blind nailing is recommended for installing any type of HardiePlank® lap siding including ColorPlus® siding. With blind nailing, each course covers the fasteners on the course below, which provides a better looking installation.

For blind nailing HardiePlank lap siding, James Hardie recommends driving fasteners 1 1/8 in. from the top edge of the plank. Additionally fasteners should be placed no closer than 3/8 in. from the ends of the plank.

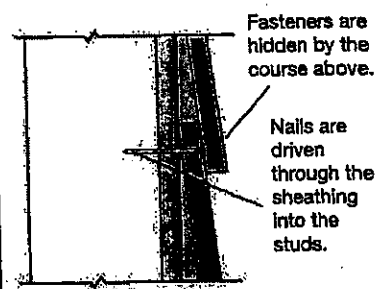
HardiePlank® HZ5® Lap Siding is manufactured with a nail line that should be used as a guide for proper nail placement when blind nailing. This nail line should not be used as a lap line.

Avoid placing fasteners near the top edge of the plank. This practice, called "high nailing", may lead to loose planks, unwanted gaps or rattling. **Pinning of butt joints with a finish nail may be done for aesthetic purposes only. The finish nail should be nailed flush to the surface (not countersunk), must be fully corrosion resistant (e.g. galvanized or stainless) and does not provide any structural support.**

10-5 Blind nailing measurements



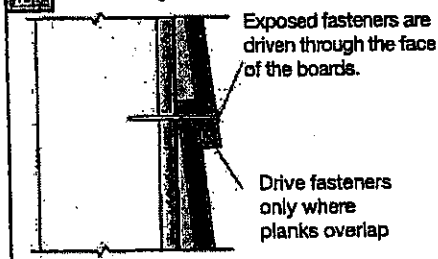
10-6 Blind nailing



FACE NAILING (nailing through the overlap at the bottom of the plank)

Although blind nailing is recommended by James Hardie, face nailing may be required for certain installations including: installations in high wind areas, fastening into OSB or equivalent sheathing without penetrating a stud, or when dictated by specific building codes. Refer to Appendix D for related code matters.

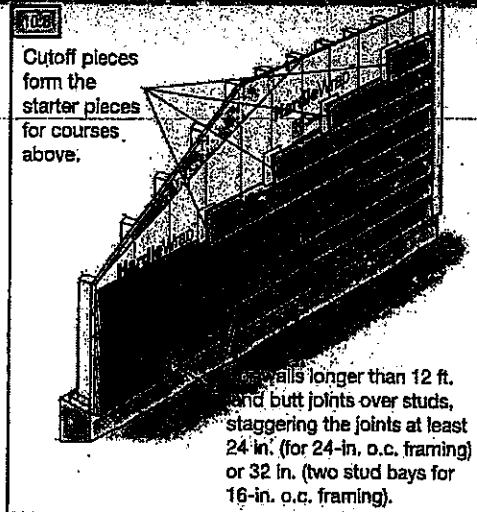
10-7 Face nailing



STAGGERING THE BUTT JOINTS

For walls longer than 12 ft., it is necessary to butt joint additional lengths of HardiePlank siding. These butt joints should be staggered to avoid noticeable patterns, which is determined by the placement of the first course. Butt joints between consecutive courses should be spaced apart by at least two stud bays for 16-in. o.c. framing or one bay for 24-in. o.c. framing.

While random placement of the planks is usually the most aesthetically pleasing, a progressive stagger pattern can make the job easier and faster without the pattern becoming too noticeable. With this strategy, the cut off piece for one course becomes the starter piece for a course above, making efficient use of materials and ensuring that all butt joints land on studs. The pattern can be modified for different stud placement.



JOINT FLASHING

The recommended method for butting factory-finish ends for all HardiePlank® lap siding is moderate contact over a piece of joint flashing. This method is required for joining ColorPlus® lap siding products.

Flashing behind butt joints provides an extra level of protection against the entry of water at the joint. James Hardie recommends 6-in. wide flashing that overlaps the course below by 1 in. Some local building codes may require different size flashing.

Joint-flashing material must be durable, waterproof materials that do not react with cement products. Examples of suitable material include finished coil stock and code compliant water-resistive barriers. Other products may also be suitable.

*Refer to Appendix for more information.

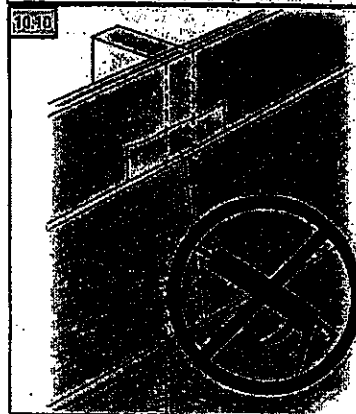
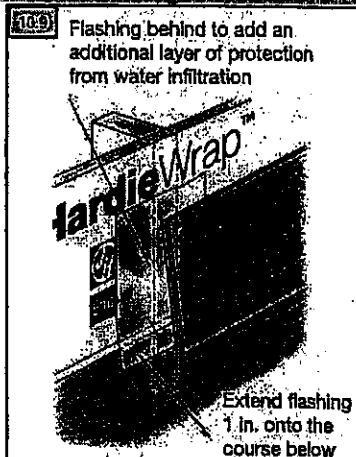
Summary of James Hardies position:

HardiePlank® Lap Siding with ColorPlus® Technology – Joint flashing behind field butt joints is required, the use of caulk will not be warranted.

HardiePlank® Lap Siding Primed – Recommend the use of joint flashing, but the use of caulk will not void the warranty.

TIP: Joint flashing can be quickly and easily made by cutting a 6 in. wide section of a roll of housewrap. Tape the roll tightly at the cut mark and cut the section of housewrap with a carbide blade. Individual sheets of flash can be cut to length with a utility knife.

TIP: Use light-colored joint flashing when using light-colored ColorPlus lap siding or other siding with a light-colored finish. Dark-colored joint flashings should be used on siding with dark finishes.



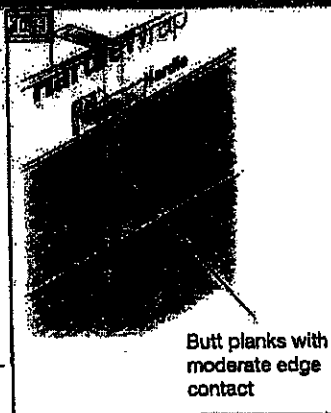
DO NOT use caulk on HardiePlank lap siding with ColorPlus Technology or over nails on ColorPlus products. Refer to the ColorPlus touch-up section for details.

Installation of HardiePlank® Lap Siding (continued)

JOINT PLACEMENT AND TREATMENT

Butt joints in HardiePlank lap siding should always land on a stud. Butt joints between studs are not recommended and should be avoided. Whenever possible, factory-finished ends should be used at butt joints.

Place cut ends where the siding meets a corner, door, window trim, or other break in the wall where the joint is to be caulked. If cut ends are used in a butt joint between planks, James Hardie requires painting or priming cut ends for primed products. For ColorPlus products, use the color-matched edge coater to finish the cut end.



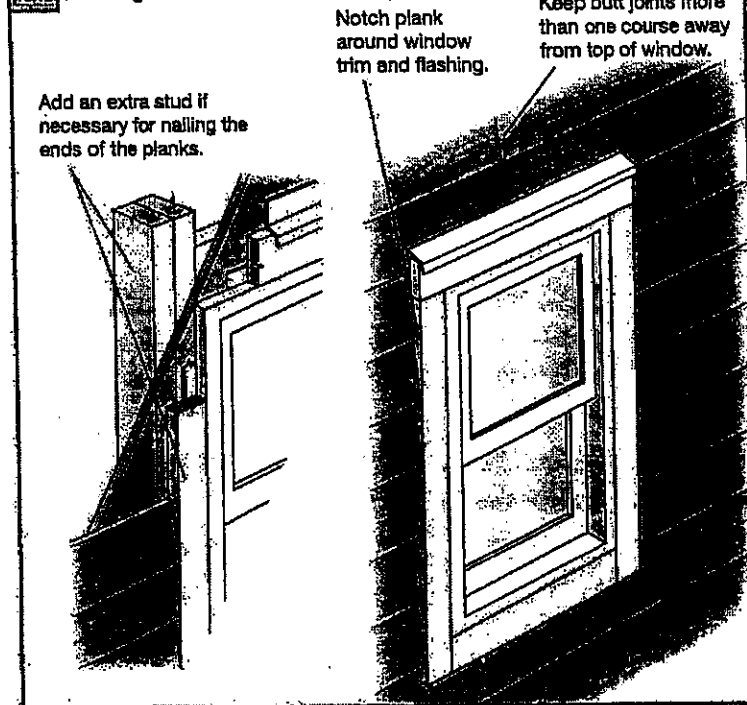
COLORPLUS TIP: When installing HardiePlank lap siding with ColorPlus Technology, position the plank from the bottom edge of the stud and place the plank on the course below and slide into position. Doing so may scuff or scratch the ColorPlus finish on the installed piece.

Once the initial course of HardiePlank® siding is fastened to the wall, continue installing successive courses with full 12-ft. pieces (follow the stagger pattern for longer walls), or until a window, door or other opening interrupts the course (fig 8.9). Notch planks as needed to fit around windows and doors. Again, be sure to paint or prime cut edges. Avoid placing butt joints directly above or below windows or above doors. Separate the joint from the opening by at least one course of siding.

Where butt joints land on a stud, make sure there is enough stud space for plank on both sides of the joint to land properly. Optimally both sides of a butt joint should land in the middle of a stud with $\frac{3}{4}$ in. landing space for each side. The minimum stud space for a plank to land is $\frac{3}{8}$ in.

Pay special attention to window, doors, and corners that have been trimmed before the siding goes on. Vertical trim boards may cover the king studs beside windows or doors, or they may cover up corner studs leaving no room for nailing the siding. In these places add extra studs as needed.

8.9.2 Planking around windows



COLORPLUS TIP: HardiePlank lap siding with ColorPlus Technology is shipped with a protective laminate slip sheet, which should be left in place during cutting and fastening to reduce marring and scratching. The sheet should be removed immediately after each plank is installed.



If corners are trimmed with HardieTrim® 5/4, 4/4 boards, it may be necessary to measure and cut the first pieces of siding to make sure the butt joints land on studs.

INSTALLING HARDIEPLANK® SIDING ON GABLE WALLS

Siding gable walls can be challenging, and some of the keys to siding gable walls efficiently are determining the angle or pitch of the roof, properly staging materials, and ensuring that the plank lengths are measured accurately.

To estimate the amount of siding needed to complete a gable end, use the estimating tools located in Appendix C.

Stage enough material on the pump jacks or scaffolding to complete the gable end, but take care not to overload the staging. When possible, a cut table should be located on the pump jacks or scaffolding, which frees up crew members to work on other walls.

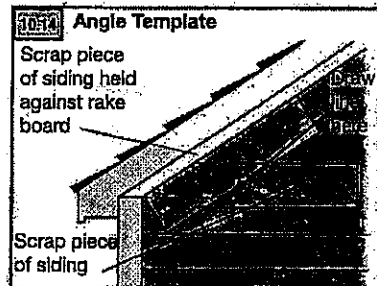
To cut planks for the gable:

- 1) Tack up a small scrap piece of siding where the first gable course is going.
- 2) Hold a second small piece of siding against the eave or rake board.
- 3) Trace the angle onto the scrap.
- 4) Cut that line and label the scrap as the template for the gable angle. The template can then be used to transfer the angle onto the larger pieces for cutting and installation.
- 5) Periodically check the angle as you progress up the wall.

The quickest way to measure and cut consecutive courses of siding for a gable is to work off the previous piece.

- 1) Cut and fit the lowest course of siding.
- 2) Before installing, lay it flat and measure down 1 1/4-in. from the top edge of the plank for the course overlap. Make a mark on both ends.
- 3) Set a piece of uncut siding on top of the first piece, aligning the bottom edge with the overlap marks. Transfer the length directly to the uncut piece.
- 4) Draw the gable angle with the template, cut the angle and then repeat the process for the next course.

TIP: Stainless steel fasteners are recommended when installing James Hardie® products.



10-13 Tip for fast gable installation

- 1 Measure, cut and fit lowest gable plank using gable angle template.
- 2 Before installing, measure down the 1 1/4-in. overlap at the top of the board.
- 3 Place a plank for the next piece on the overlap lines and mark the length.
- 4 Draw the angle, cut and repeat the process for the next course.

HARDIEPLANK® SIDING FASTENER SPECIFICATIONS

Fastener	Substrate	Approved Fastener	Fastener Type
wood studs	blind nail	16" o.c.	2 .118" x .267" x 2" — 6d
		24" o.c.	3 .089" x .221" x 2" siding nail
	face nail	16" o.c.	9 [11 GA] .121 x .371" x 1.25" roofing nail
		24" o.c.	7 Ribbed Bugle-Head No. 8 .323" x 1.625" screws
	blind nail	18" o.c.	8 Ribbed Wafer-Head No. 8 (.375" x 1.25")
		24" o.c.	12 [AKN-100] .100" x .25" x 1.5" ET&F
steel studs*	blind nail	16" o.c.	13 [AGS-100] .100" x .313" x 1.5"
		24" o.c.	14 masonry nail [ASTM C-90] ASM-144-125 (P/C)
	face nail	16" o.c.	15 Ribbed Wafer-Head No. 8 (.375" x 1.5/8") screw
		24" o.c.	16 roofing nail [11 GA] .121 x .371" x 1.75"
	Direct to Masonry	7/16" OSB or equivalent (blind nailed)	4 .091" x .221" x 1.5" siding nail
		7/16" OSB or equivalent (face nailed)	

*When blind fastening 9.5" or wider product onto steel studs, use screws.

● Indicates recommended fasteners

JamesHardie® lardiePlank® **HL5** Lap Siding

TALLATION REQUIREMENTS - PRIMED & COLORPLUS® PRODUCTS



JamesHardie

EFFECTIVE NOVEMBER 2012

Visit www.jameshardie.com for the most recent version.

**SELECT CEDARMILL® • SMOOTH • CUSTOM COLONIAL™ SMOOTH • CUSTOM COLONIAL™ ROUGHSAWN
CUSTOM-BEADED CEDARMILL® • CUSTOM-BEADED SMOOTH • STRAIGHT-EDGE SHINGLE PLANK**

**IMPORTANT: FAILURE TO INSTALL AND FINISH THIS PRODUCT IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND JAMES HARDIE
ITTEN APPLICATION INSTRUCTIONS MAY LEAD TO PERSONAL INJURY, AFFECT SYSTEM PERFORMANCE, VIOLATE LOCAL BUILDING CODES, AND
HE PRODUCT ONLY WARRANTY. BEFORE INSTALLATION, CONFIRM THAT YOU ARE USING THE CORRECT HARDIEZONE™ PRODUCTS INSTRUCTIONS.
TO DETERMINE WHICH HARDIEZONE™ APPLIES TO YOUR LOCATION, VISIT WWW.HARDIEZONE.COM OR CALL 1-866-942-7343 (866 9HARDIE)**

ORAGE & HANDLING:

re flat and keep dry and covered prior
installation. Installing siding wet or
rated may result in shrinkage at butt
ts. Carry planks on edge. Protect
es and corners from breakage. James
die is not responsible for damage
sed by improper storage and handling
ne product.



CUTTING INSTRUCTIONS

OUTDOORS

1. Position cutting station so that wind will blow dust away from user and others in working area.
2. Use one of the following methods:
 - a. Best:
 - i. Score and snap
 - ii. Shears (manual, electric or pneumatic)
 - b. Better:
 - i. Dust reducing circular saw equipped with a HardieBlade® saw blade and HEPA vacuum extraction
 - ii. Dust reducing circular saw with a HardieBlade saw blade (only use for low to moderate cutting)
 - c. Good:

INDOORS

1. Cut only using score and snap, or shears (manual, electric or pneumatic).
 2. Position cutting station in well-ventilated area
- NEVER use a power saw indoors
 - NEVER use a circular saw blade that does not carry the HardieBlade saw blade trademark
 - NEVER dry sweep - Use wet suppression or HEPA Vacuum

Important Note: For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best"-level cutting methods where feasible.

NIOSH-approved respirators can be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at www.jameshardie.com to help you determine the most appropriate cutting method for your job requirements. If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

SD0033.05

**PORTANT: To prevent damage to the drip edge, extra care should be taken when removing planks from the pallet, while handling, and
ren installing with a lap gauge. Please see additional handling requirements on page 4.**

ENERAL REQUIREMENTS:

lardiePlank® lap siding can be installed over braced wood or steel studs spaced a maximum of 24" o.c. or directly to minimum 7/16" thick OSB
heathing. See General Fastening Requirements. Irregularities in framing and sheathing can mirror through the finished application.
Information on installing James Hardie products over foam can be located in JH Tech Bulletin 19 at www.jameshardie.com
water-resistive barrier is required in accordance with local building code requirements. The water-resistive barrier must be appropriately installed with penetration and
injection flashing in accordance with local building code requirements. James Hardie will assume no responsibility for water infiltration. James Hardie does manufacture
lardieWrap® Weather Barrier, a non-woven non-perforated housewrap®, which complies with building code requirements.
When installing James Hardie products all clearance details in figs. 3,4,5,6,7,8,& 9
must be followed.

Adjacent finished grade must slope away from the building in accordance with local
uilding codes - typically a minimum of 6" in the first 10'.

Do not use HardiePlank lap siding in Fascia or Trim applications.

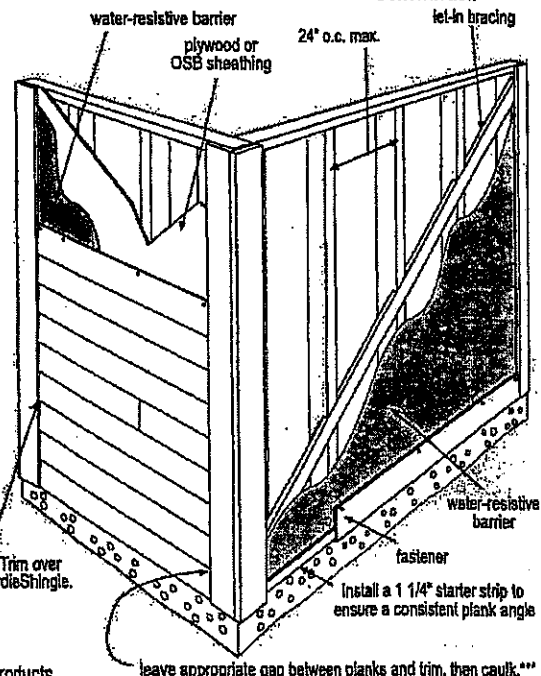
Do not install James Hardie products, such that they may remain in contact with standing water.

HardiePlank lap siding may be installed on flat vertical wall applications only.

DO NOT use stain on James Hardie® products.

For larger projects, including commercial and multi-family projects, where the span of the wall
s significant in length, the designer and/or architect should take into consideration the
efficient of thermal expansion and moisture movement of the product in their design. These
values can be found in the Technical Bulletin "Expansion Characteristics of James Hardie®
Siding Products" at www.JamesHardie.com.

Figure 1 Double Wall Construction Single Wall Construction



INSTALLATION:

INT TREATMENT

Joint flashing behind field butt joints is
required for ColorPlus and recommended
for primed products.

DO NOT Caulk field butt joints on
ColorPlus siding.*

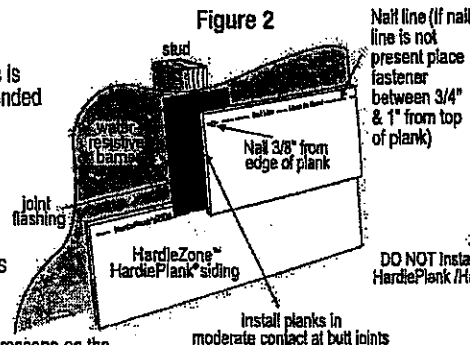
It is OK to Caulk field butt joints on
James Hardie primed siding products
that is to be field painted.**

DO caulk where HardiePlank® meets
vertical trim.

Note: Caulking at field butt joints is not
recommended for ColorPlus for aesthetic reasons as the
caulking and ColorPlus will weather differently. For the same reason, do not caulk nail heads on ColorPlus products.

*Note: Field painting over caulking may produce a sheen difference when compared to the field painted PrimePlus. ***Refer to Caulking section in these instructions.

For additional information on HardieWrap® Weather Barrier, consult James Hardie at 1-866-4Hardie or www.hardiewrap.com



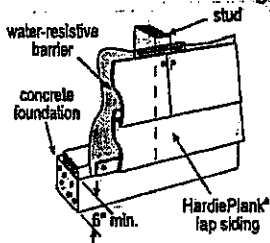
WARNING: AVOID BREATHING SILICA DUST

James Hardie® products contain respirable crystalline silica, which is known to the State of California to cause cancer and is considered by IARC and NIOSH to be a cause of cancer from some occupational
sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest
smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) use fiber cement shears for cutting or, where not feasible, use a HardieBlade saw
blade and dust-reducing circular saw attached to a HEPA vacuum; (3) warn others in the immediate area; (4) wear a properly-fitted, NIOSH-approved dust mask or respirator (e.g. N-95) in accordance with
applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods - never dry sweep. For further
information, refer to our installation instructions and Material Safety Data Sheet available at www.jameshardie.com or by calling 1-800-9HARDIE (1-800-942-7343). FAILURE TO ADHERE TO OUR
WARNINGS, MSDS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

CLEARANCES

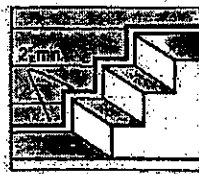
Install siding and trim products in compliance with local building code requirements for clearance between the bottom edge of the siding and the adjacent finished grade.

Figure 3



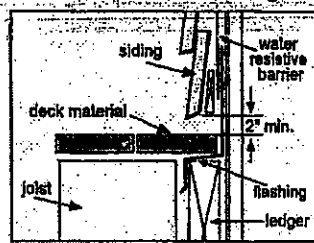
Maintain a 2" minimum clearance between James Hardie® products and paths, steps and driveways.

Figure 4



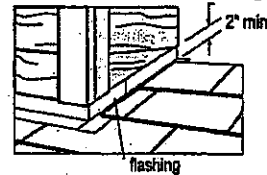
Maintain a 2" minimum clearance between James Hardie products and decking material.

Figure 5



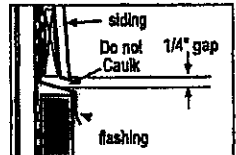
At the juncture of the roof and vertical surfaces, flashing and counterflashing shall be installed per the roofing manufacturer's instructions. Provide a 2" minimum clearance between the roofing and the bottom edge of the siding and trim.

Figure 6



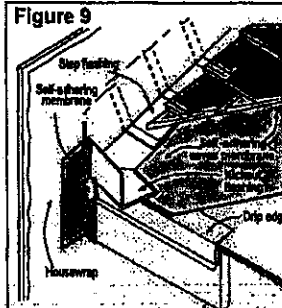
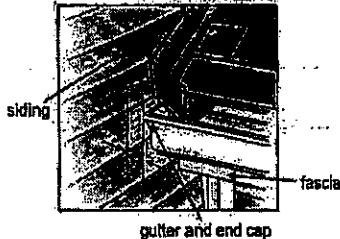
Maintain a 1/4" clearance between the bottom of James Hardie products and horizontal flashing. Do not caulk gap.

Figure 7



Maintain a minimum 1" gap between gutter end caps and siding & trim.

Figure 8



KICKOUT FLASHING
Because of the volume of water that can pour down a sloped roof, one of the most critical flashing details occurs where a roof intersects a sidewall. The roof must be flashed with step flashing. Where the roof terminates, install a kickout to deflect water away from the siding.
It is best to install a self-adhering membrane on the wall before the subfascia and trim boards are nailed in place, and then come back to install the kickout.

Figure 9, Kickout Flashing To prevent water from dumping behind the siding and the end of the roof intersection, install a "kickout" as required by IRC code R905.2.8.3: "...flashing shall be a min. of 4" high and 4" wide." James Hardie recommends the kickout be angled between 100° - 110° to maximize water deflection

FASTENER REQUIREMENTS **

Blind Nailing is the preferred method of installation for HardiePlank® lap siding products. Face nailing should only be used where required for high wind areas and must not be used in conjunction with Blind nailing (Please see JH Tech bulletin 17 for exemption when doing a repair). **Pin-backed corners may be done for aesthetic purposes Only. Pin-backs shall be done with finish nails only; and are not a substitute for blind or face nailing.**

BLIND NAILING

Nails - Wood Framing

- Siding nail (0.09" shank x 0.221" HD x 2" long)
- 11ga. roofing nail (0.121" shank x 0.371" HD x 1.25" long)

Screws - Steel Framing

- Ribbed Wafer-head or equivalent (No. 8 x 1 1/4" long x 0.375" HD) Screws must penetrate 3 threads into metal framing.

Nails - Steel Framing

- ET & F Panelfast® nails or equivalent (0.10" shank x 0.313" HD x 1-1/2" long)
- Nails must penetrate minimum 1/4" into metal framing.

OSB minimum 7/16"

- 11ga. roofing nail (0.121" shank x 0.371" HD x 1.75" long)
- Ribbed Wafer-head or equivalent (No. 8 x 1 5/8" long x 0.375" HD).

FACE NAILING

Nails - Wood Framing

- 6d (0.113" shank x 0.267" HD x 2" long)
- Siding nail (0.09" shank x 0.221" HD x 2" long)

Screws - Steel Framing

- Ribbed Bugle-head or equivalent (No. 8-18 x 1-5/8" long x 0.323" HD) Screws must penetrate 3 threads into metal framing.

Nails - Steel Framing

- ET & F pin or equivalent (0.10" shank x 0.25" HD x 1-1/2" long)
- Nails must penetrate minimum 1/4" into metal framing.

OSB minimum 7/16"

- Siding nail (0.09" shank x 0.221" HD x 1-1/2" long)*

Figure 10

Minimum overlap for Both Face and Blind Nailing

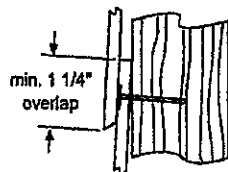
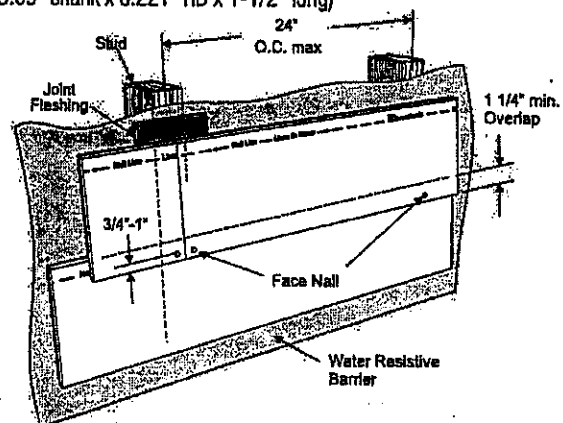


Figure 11



Laminate sheet to be removed immediately after installation of each course for ColorPlus® products.

*The illustration (figure 9) and associated text was reprinted with permission of THE JOURNAL OF LIGHT CONSTRUCTION. For subscription information, visit www.jlconline.com.

* When face nailing to OSB, planks must be no greater than 9 1/4" wide and fasteners must be 12" o.c. or less.

* Also see General Fastening Requirements; and when considering alternative fastening options refer to James Hardie's Technical Bulletin USTB 17 - Fastening Tips for HardiePlank® Lap Siding.

GENERAL FASTENING REQUIREMENTS

Fasteners must be corrosion resistant, galvanized, or stainless steel. Electro-galvanized are acceptable but may exhibit premature corrosion. James Hardie recommends the use of quality, hot-dipped galvanized nails. James Hardie is not responsible for the corrosion resistance of fasteners. Stainless steel fasteners are recommended when installing James Hardie® products near the ocean, large bodies of water, or in very humid climates.

Manufacturers of ACQ and CA preservative-treated wood recommend barrier materials or other physical barriers to prevent direct contact of ACQ or CA preservative-treated wood and aluminum products. Fasteners used to attach HardieTrim Tabs to preservative-treated wood shall be of hot dipped zinc-coated galvanized steel or stainless steel and in accordance to 2009 IRC R317.3 or 2009 IBC 2304.9.5.

Consult applicable product evaluation or listing for correct fasteners type and placement to achieve specified design wind loads. NOTE: Published wind loads may not be applicable to all areas where Local Building Codes have specific jurisdiction. Consult James Hardie Technical Services if you are unsure of applicable compliance documentation.

Drive fasteners perpendicular to siding and framing.

Fastener heads should fit snug against siding (no air space). (fig. A)

Do not over-drive nail heads or drive nails at an angle.

If nail is countersunk, fill nail hole and add a nail. (fig. B)

For wood framing, under driven nails should be hit flush to the plank with a hammer (For steel framing, remove and replace nail).

NOTE: Whenever a structural member is present, HardiePlank should be fastened with even spacing to the structural member.

The tables allowing direct to OSB or plywood should only be used when traditional framing is not available.

Do not use aluminum fasteners, staples, or clipped head nails.

PNEUMATIC FASTENING

James Hardie products can be hand nailed or fastened with a pneumatic tool. Pneumatic fastening is highly recommended. Set air pressure so that the fastener is driven snug with the surface of the siding. A flush mount attachment on the pneumatic tool is recommended. This will help control the depth the nail is driven. If setting the nail depth proves difficult, choose a setting that under drives the nail. (Drive under driven nails snug with a smooth faced hammer - Does not apply for installation to steel framing).



snug



flush

Figure A



Countersink,
Fill & Add Nail

Figure B



DO NOT
under drive nails



DO NOT
staple

PAINTING

DO NOT use stain on James Hardie® products. James Hardie products must be painted within 180 days for primed product and 90 days for unprimed. 100% acrylic topcoats are recommended. Do not paint when wet. For application rates refer to paint manufacturers specifications. Back-rolling is recommended if the siding is sprayed.

CUT EDGE TREATMENT

Caulk, paint or prime all field cut edges. James Hardie touch-up kits are required to touch-up ColorPlus products.

CAULKING

For best results use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. Note: OSI Quad as well as some other caulking manufacturers do not allow tooling.

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

Care should be taken when handling and cutting James Hardie ColorPlus products. At the job-site use a soft cloth to gently wipe any residue or construction dust left on the product.

Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch-up applicator. Touch-up should be used sparingly.

If large areas require touch-up, replace the damaged area with new HardiePlank® lap siding with ColorPlus® Technology.

Laminate sheet must be removed immediately after installation of each course.

Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus® product dealer.

Treat all other non-factory cut edges using the ColorPlus Technology edge coat, available from your ColorPlus product dealer.

Note: James Hardie does not warrant the usage of third party touch-up or paints used as touch-up on James Hardie ColorPlus products.

Problems with appearance or performance arising from use of third party touch-up paints or paints used as touch-up that are not James Hardie touch-up, will not be covered under the James Hardie ColorPlus Limited Finish Warranty.

PAINTING JAMES HARDIE® SIDING AND TRIM PRODUCTS WITH COLORPLUS® TECHNOLOGY

When repainting ColorPlus products, James Hardie recommends the following regarding surface preparation and topcoat application:

- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew
- Repriming is normally not necessary
- 100% acrylic topcoats are recommended
- DO NOT use stain or oil/alkyd base paints on James Hardie® products
- Apply finish coat in accordance with paint manufacturers written instructions regarding coverage, application methods, and application temperature
- DO NOT caulk nail heads when using ColorPlus products, refer to the ColorPlus touch-up section

COVERAGE CHART/ESTIMATING GUIDE

Number of 12' planks, does not include waste

COVERAGE AREA LESS OPENINGS		HARDIEPLANK® LAP SIDING WIDTH									
SQ (1 SQ = 100 sq.ft.)	(exposure)	5 1/4 4	6 1/4 5	7 1/4 6	7 1/2 6 1/4	8 6 3/4	8 1/4 7	9 1/4 8	9 1/2 8 1/4	12 10 3/4	
1		25	20	17	16	15	14	13	13	9	
2		50	40	33	32	30	29	25	25	19	
3		75	60	50	48	44	43	38	38	28	
4		100	80	67	64	59	57	50	50	37	
5		125	100	83	80	74	71	63	63	47	
6		150	120	100	96	89	86	75	75	56	
7		175	140	117	112	104	100	88	88	65	
8		200	160	133	128	119	114	100	100	74	
9		225	180	150	144	133	129	113	113	84	
10		250	200	167	160	148	143	125	125	93	
11		275	220	183	176	163	157	138	138	102	
12		300	240	200	192	178	171	150	150	112	
13		325	260	217	208	193	186	163	163	121	
14		350	280	233	224	207	200	175	175	130	
15		375	300	250	240	222	214	188	188	140	
16		400	320	267	256	237	229	200	200	149	
17		425	340	283	272	252	243	213	213	158	
18		450	360	300	288	267	257	225	225	167	
19		475	380	317	304	281	271	238	238	177	
20		500	400	333	320	296	286	250	250	186	

This coverage chart is meant as a guide. Actual usage is subject to variables such as building design. James Hardie does not assume responsibility for over or under ordering of product.

ADDITIONAL HANDLING REQUIREMENTS

IMPORTANT: To prevent damage to the drip edge, extra care should be taken when removing planks from the pallet, while handling, and when installing with a lap gauge. Planks are interlocked together on the pallet, therefore they should be removed from the pallet horizontally (side to side) to allow planks to unlock themselves from one another.

Pull from across the stack



Do not go down the stack



RECOGNITION: In accordance with ICC-ES Legacy Report NER-405, HardiePlank® lap siding is recognized as a suitable alternate to that specified in: the BOCA National Building Code/1999, the 1997 Standard Building Code, the 1997 Uniform Building Code, the 1998 International One- and Two-Family Dwelling Code, the 2003 International Building Code, and the 2003 International Residential Code for One- and Two-Family Dwellings. HardiePlank lap siding is also recognized for application in the following: City of Los Angeles Research Report No. 24862, State of Florida listing FL#889, Dade County, Florida NOA No. 02-0729.02, U.S. Dept. of HUD Materials Release 1263c, Texas Department of Insurance Product Evaluation EC-23, City of New York NEA 223-93-M, and California DSA PA-019. These documents should also be consulted for additional information concerning the suitability of this product for specific applications.

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James Hardie Building Products. ® is a registered trademark
of James Hardie Building Products.

Additional Installation Information,
Warranties, and Warnings are available at
www.jameshardie.com



JamesHardie

HardieShingle

HardieShingle® Siding Product Description

HardieShingle® siding is fiber-cement shingle siding for sidewall applications. HardieShingle siding is available as straight-edge panels or staggered-edge panels 48-in. long by 16-in. high. HardieShingle panels also come as decorative half-round shingles. For smaller coverage areas, individual shingles are also available in 4.2", 5.5", 6.75", 7.25" & 10" widths. Please see your James Hardie dealer for local availability of these products.

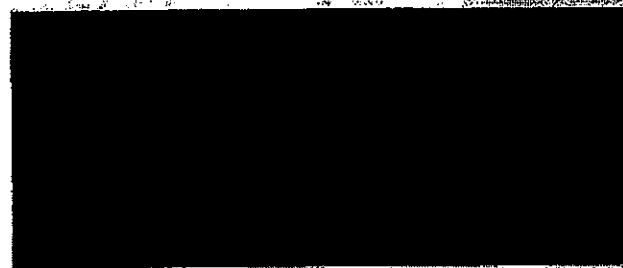
HardieShingle siding is available as a prefinished James Hardie product with ColorPlus® Technology. The ColorPlus coating is a factory applied, oven-baked finish available on a variety of James Hardie siding and trim products. See your local dealer for details and availability of products, colors and accessories.



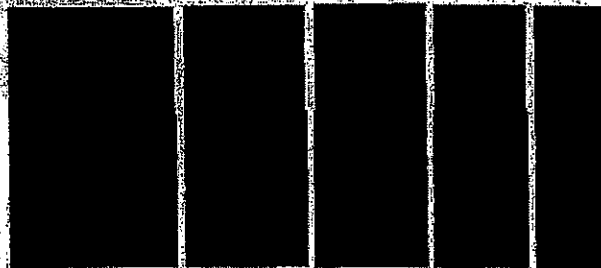
Half-Round



New Staggered Edge Panel



New Straight Edge Panel



New Individual Shingles



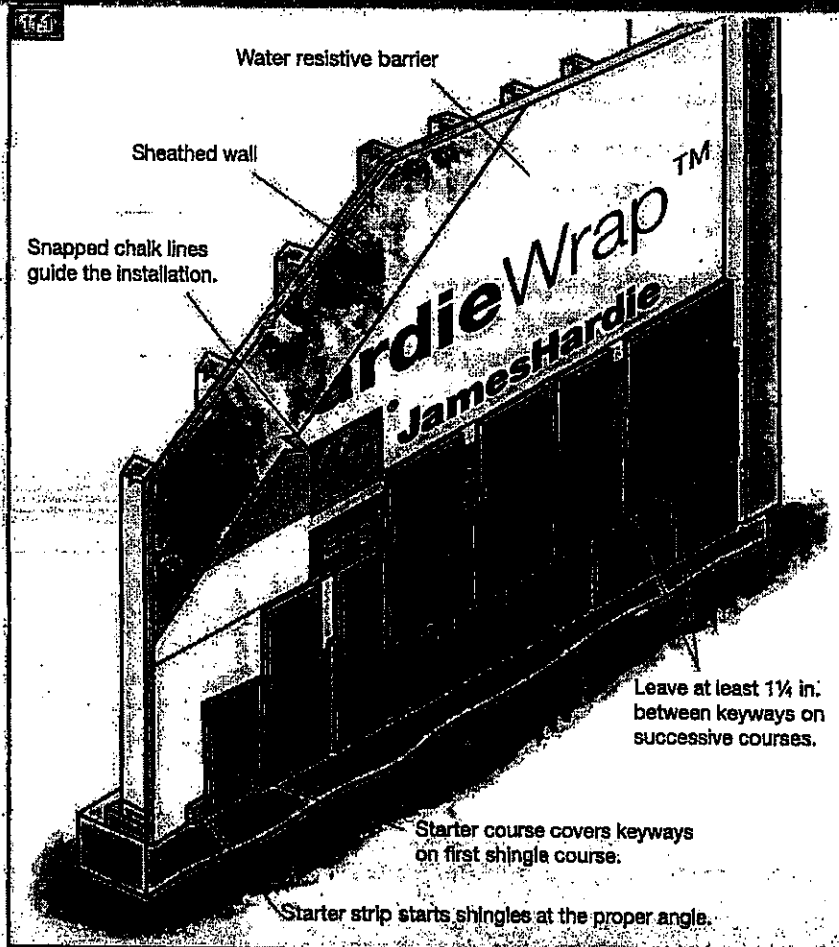
Installation of HardieShingle® Siding

INDIVIDUAL SHINGLES

Like conventional wood-shingle siding, HardieShingle® siding requires the use of a starter strip and a starter course before installing the first full course of shingle panels or individual shingles. The starter strip sets the initial shingles at the proper angle and the starter course provides solid backing and keyway coverage for the first shingle course.

- 1) The starter strip should be installed over the water-resistive barrier. Starter strips can be made by ripping 1 1/4-in. lengths from full or partial planks of HardiePlank® siding.
- 2) Use HardiePlank 8 1/4-in. lap siding for the starter course.
- 3) Snap a level chalk line 8 1/4 in. up from the bottom edge of the starter strip.
- 4) Position the top of the starter course along the chalk line.
- 5) The first course of shingle siding is then installed even with bottom edge of the starter course.

When installing individual HardieShingles®, be sure to space shingles no more than 1/4 in. apart. Spaces between shingles should not be within 1 1/2 in. of the spaces in the courses above and below.



TIP: For the best appearance, apply shingle widths in a random manner to avoid creating a repeat pattern. Pre-planning of each course is recommended to aid appearance and to avoid stacked seams.

TIP: Stainless steel fasteners are recommended when installing James Hardie products.

HARDIESHINGLE SIDING FASTENER SPECIFICATIONS

Fastening Substrate		Fastening Types		Corrosion-resistant siding nails 1 1/4-in. long should be used to apply individual HardieShingles® to minimum 7/16-in. OSB rated sheathing. Position nails 1/2 in. to 1 in. from the side edges of the shingles and 8 1/2 in. to 9 in. up from the bottom edge of the shingle.	
Individual Shingles	Minimum 15/32" thick plywood	9	[11 GA] .121 x .371" x 1.25" roofing nail	2 nails per shingle on 4-2-in., 5-6-in., 6-7-5-in., 7-25-in., and 10-in. shingles.	
	Minimum 7/16" thick plywood	4	.091" x .221" x 1.5" siding nail		
HardieShingle Panels	16" or 24" O.C. wood studs	6	.083" x .167" x 1.5" ring shank siding nail		
	Directly to minimum 7/16" thick OSB	6			

General Product Information

Working Safety

Tools for Cutting and Fastening

General Installation Requirements

General Fastener Requirements

Finishing and Maintenance

HardieWrap® Weather Barrier

HardieTrim® Boards/Patterns

HardieScape® Panels

HardiePlank® Lap Siding

HardieShingle® Shingles

HardieRange® Vertical Siding

Appendix/Glossary

ENR-1064 & 2250 Report

Installation of HardieShingle® Siding (continued)

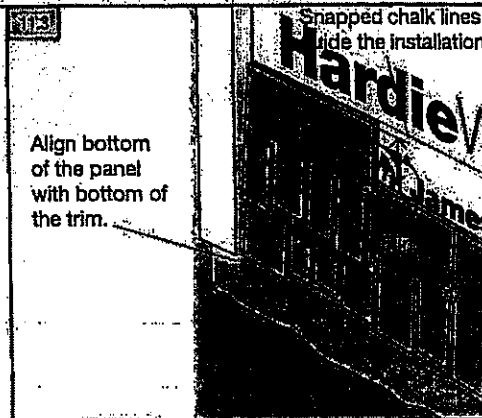
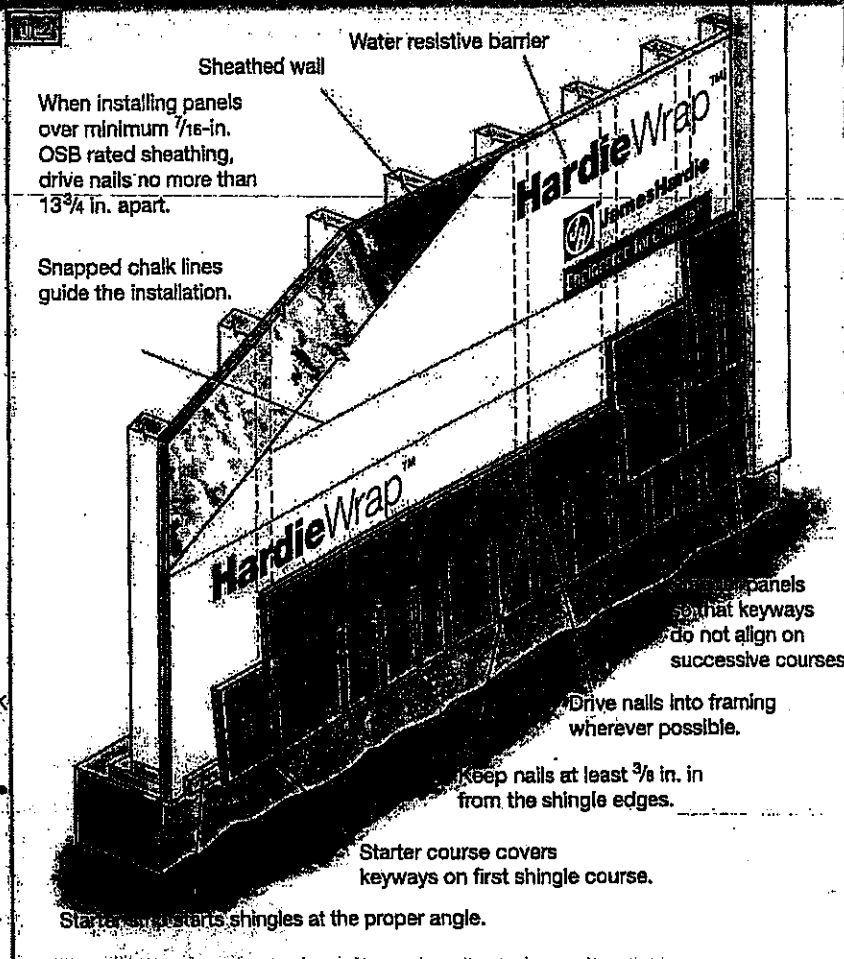
HARDIESHINGLE PANELS

For HardieShingle® panels start at one end and work across the wall.

- 1) Measure and trim the first panel to make sure the end of the panel falls over framing.
- 2) Using the chalk line as a guide along the panel top edge, carefully position the panels and secure with suitable fasteners and spacing for your particular application as noted in the ESR 1844 & 2290 Report.
- 3) Align the bottom edges of the trim and the siding for the best appearance. Where the panel begins at a corner board or at door or window casings, cut the upper portion of the panel back even with the edge of the keyway.
- 4) Where the siding meets the HardieTrim® board, leave a $\frac{1}{8}$ -in. gap between the siding and trim. Install HardieShingle panels with joints in moderate contact.
- 5) Measure and cut the first panel for the second course of HardieShingle panel so that it lands on the stud before the panel on the first course. Use the cut end to abut the trim.
- 6) Start the third course with the end of the panel landing on the stud before the second course. Save the cut pieces to use on the other end of the wall.
- 7) Continue alternating these three lengths up the wall to establish proper positioning of the shingle keyways.

When installing HardieShingle Staggered Edge panel, measure up 6 in. from the top of the installed panel and make a mark. Make another mark at an equal height on the opposite end of the wall and snap a chalk line between the marks. Align the top of the next course of panel with the chalk line to maintain proper exposures.

Keep the bottom of the siding even with the bottom of the trim. If desired, the trim may extend below the bottom of the siding, but the siding should not hang below the trim. Make sure that clearances above the ground, roof lines and hard surfaces are in accordance with the General Requirements on pages 13-26.



TIP: A straight edge panel can be used on the bottom course if desired.



WARNING

James Hardie recommends installing HardieShingle panel over rated wood sheathing.

INSTALLING HARDIE SINGLE PANEL DIRECT TO 7/16" SHEATHING

Refer to ESR-2290 for allowable wind loads.

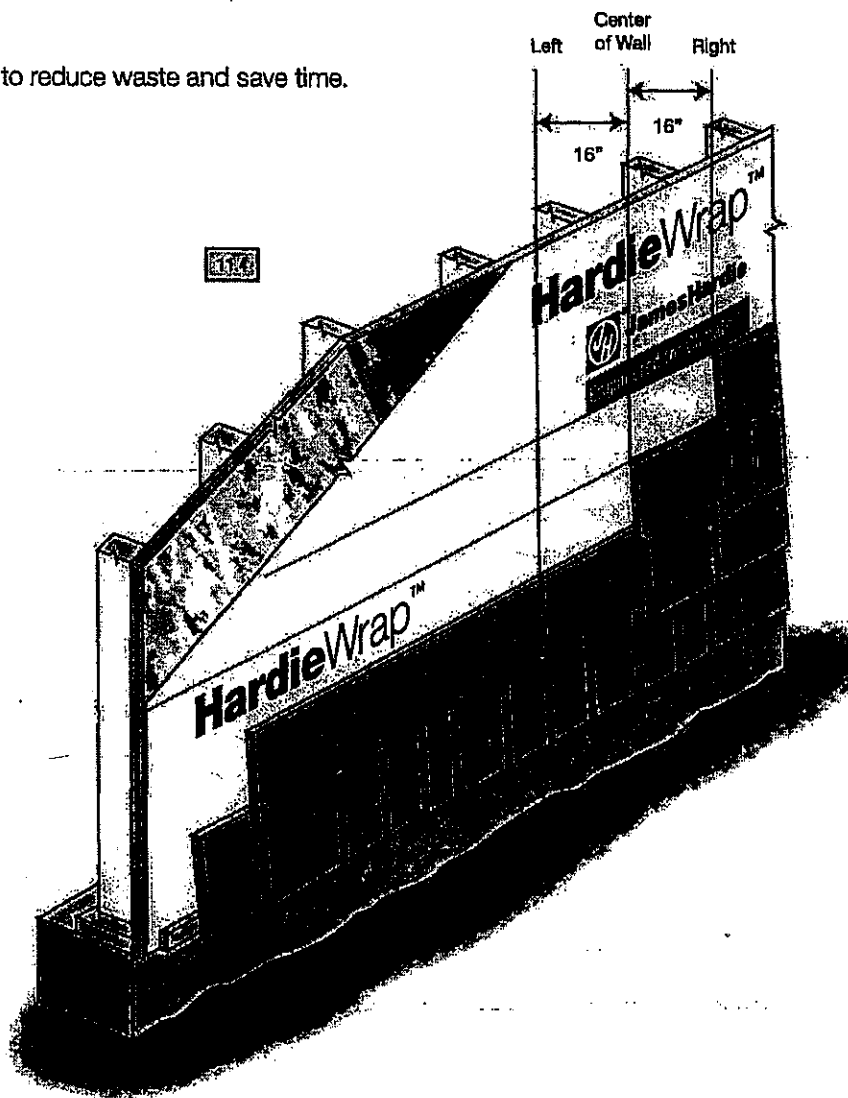
Panel and Individuals may be mixed together to reduce waste and save time.

Straight Wall

- 1) Always work from center of wall to outside corner trim
- 2) Make all shingle length cuts at trim, not mid wall
- 3) Start first panel to left of center
- 4) If openings exist on wall, locate offset layout on each side of opening
- 5) Start second row of shingle on centerline of offset layout
- 6) Start third row of shingle on right line of offset layout
- 7) Repeat starting panel on remaining rows using Left, Middle, Right layout lines

Gable

- 1) Layout offset on gable similar to straight wall, except vertical layout lines should be made across the gable face at the offset dimension
- 2) Utilize three center lines for starting row
- 3) Start first piece on the left vertical line, left of center
- 4) Use the additional vertical lines to pre measure finishing pieces
- 5) Start Second row on the vertical centerline of the gable face
- 6) Start third row on vertical line to the right of center
- 7) Repeat starters Left, Middle, Right for remaining courses



Product Information

Safety

Cutting and Fastening

Installation Requirements

Fastener Requirements

Trimming and Maintenance

HardieWrap Weather Barrier

HardieWrap Boards/Battens

HardieWrap Panels

HardieWrap Lap Siding

HardieWrap Vertical Siding

HardieWrap Vertical Siding

Appendix/Glossary

ESR-1044 & 2290 Report

Installation of HardieShingle® Siding (continued)

HALF-ROUND DECORATIVE SHINGLE PANELS

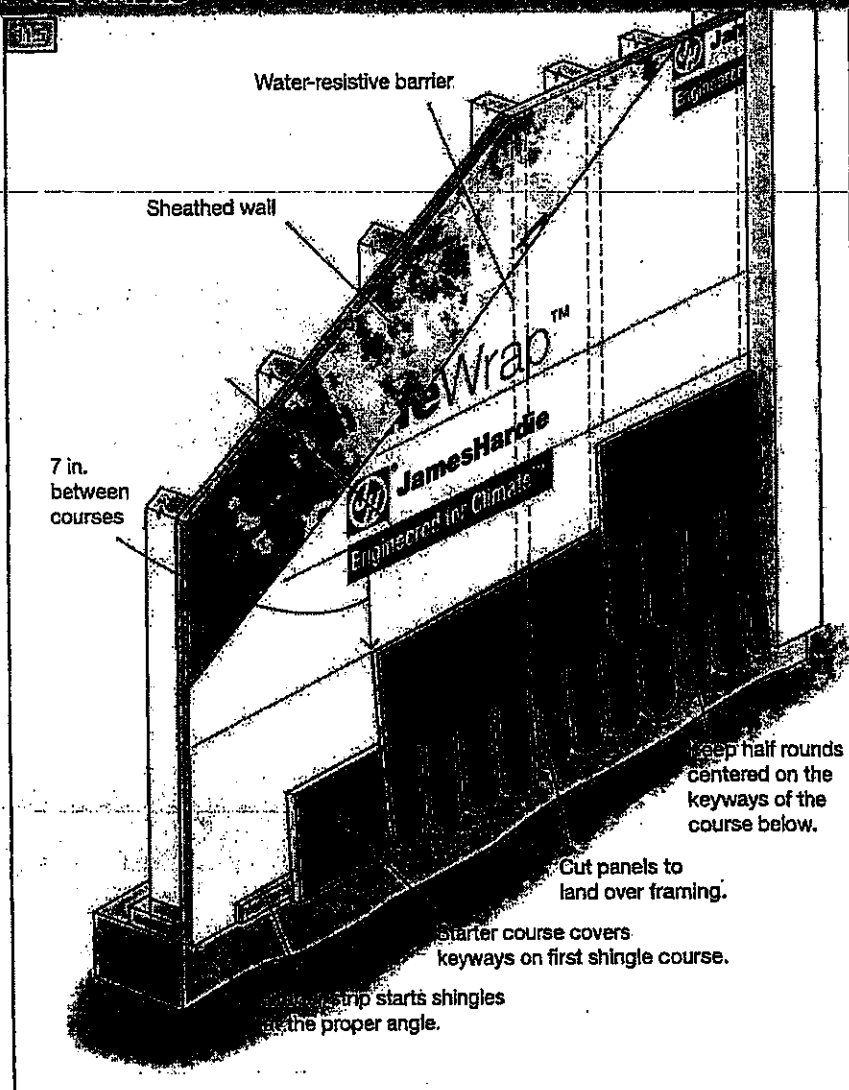
Half-round shingles are often used for a decorative note above regular shingles, especially in gables.

- 1) Start the first course from the middle of the run so that half round sections at either end are cut equally.
- 2) Then start the second course from the trim at one end and cut it so that it lands on the framing one stud away from the course below.
- 3) Cut the panel to abut the trim at the other end of the course. Make sure keyways are located over the midpoints of the half rounds in the lower course for correct alignment.
- 4) At the top of the wall, install a frieze board and install shingles up to the bottom edge of the frieze.
- 5) Top rows of shingles may have to be cut to an appropriate height to maintain consistent exposure top to bottom.

All HardieShingle® siding products can be applied to the gable end of a building following their specific installation instructions. But special care should be taken when installing half-round panels due to their symmetrical nature.

For best appearance, half-round shingle panel installations on gable ends should end with a single round shingle at the gable peak. To make this happen, calculation of the actual number of courses is necessary. Follow the simple steps below to achieve this effect.

- 1) Measure the horizontal width of the gable being sided and locate the center of the gable. Using a level or chalk line, draw a line from the gable peak to the center mark.
- 2) Measure the entire height of the gable area to be sided above the band board.
- 3) Divide the total height of the gable by 7. (Half round shingles have an exposure of 7 in. and this figure is the number of courses to be installed.
- 4) If the answer is an even number (example: 70 in. divided by 7 = 10 courses), center the first panel course on a keyway on the vertical center line (fig. 9.7). If the answer is an odd number, (example: 77 in. divided by 7 = 11 courses) center the first course on the center of a half-round shingle (fig. 9.8).

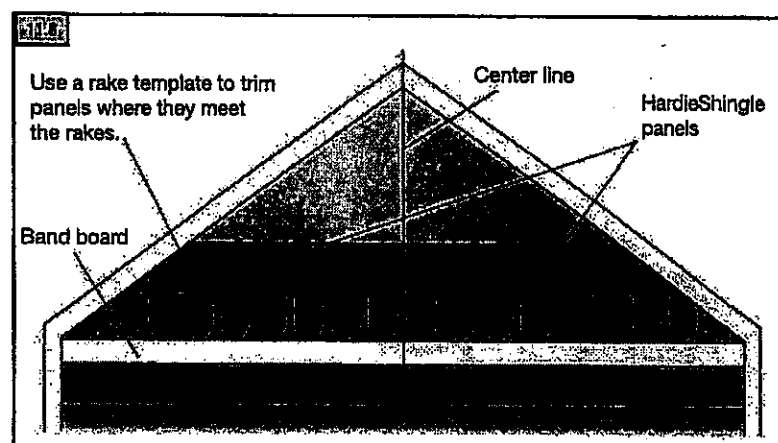
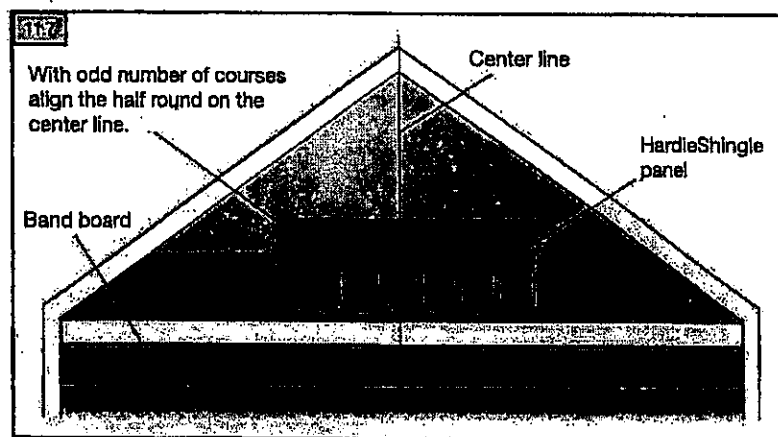
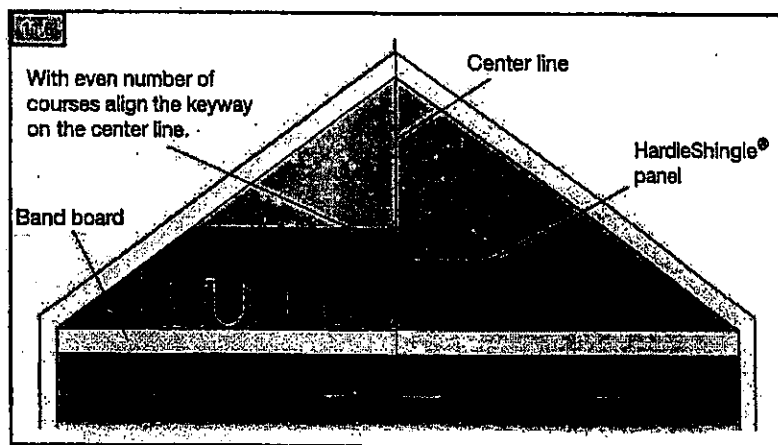


Installation of HardieShingle® Siding (continued)

- 5) Using this planning method, the final piece at the peak should be a centered shingle.

To install the first course of half-round panel in a gable:

- 1) position the first piece of panel on the gable centerline marked earlier. The panel may be moved left or right to make the edge lands on a stud as long as the shingle face or keyway is centered (depending on the number of courses needed as discussed above).
- 2) Drive nails approximately $\frac{1}{4}$ in. above the top of every other keyway. Avoid driving nails between the keyways because the heads may be visible through the keyways of subsequent courses.
- 3) Complete the installation on the left and right sides using the rake-angle template to cut the proper rake angle. Leave a $\frac{1}{8}$ -in. gap between the siding and trim boards.
- 4) Use the rake angle template to trim back the start panel for the 2nd course. Install the 2nd and following courses the same way. At the peak of the gable, face nail the final piece with a finish nailer.



Product Information

Safety

Cutting and Fastening

Installation Requirements

Fastener Requirements

Maintenance

Weather Barrier

Boards/Beams

Trim

Lap Siding

HardieShingle Siding

HardieShingle Vertical Siding

Glossary

2001-2004 & 2005 Report

HardieShingle® *HL5* Siding



James Hardie

STRAIGHT EDGE, STAGGERED EDGE, HALF-ROUND PANELS & INDIVIDUAL SHINGLES
INSTALLATION REQUIREMENTS - PRIMED & COLORPLUS® PRODUCTS

EFFECTIVE NOVEMBER 2012

Visit www.jameshardie.com for the most recent version.

IMPORTANT: FAILURE TO INSTALL AND FINISH THIS PRODUCT IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND JAMES HARDIE WRITTEN APPLICATION INSTRUCTIONS MAY LEAD TO PERSONAL INJURY, AFFECT SYSTEM PERFORMANCE, VIOLATE LOCAL BUILDING CODES, AND VOID THE PRODUCT ONLY WARRANTY. BEFORE INSTALLATION, CONFIRM THAT YOU ARE USING THE CORRECT HARDIEZONE™ INSTRUCTIONS. TO DETERMINE WHICH HARDIEZONE™ APPLIES TO YOUR LOCATION, VISIT WWW.HARDIEZONE.COM OR CALL 1-866-942-7343 (866 9HARDIE)

STORAGE & HANDLING:

Store flat and keep dry and covered prior to installation. Installing siding wet or saturated may result in shrinkage at butt joints. Carry planks on edge. Protect edges and corners from breakage. James Hardie is not responsible for damage caused by improper storage and handling of the product.



CUTTING INSTRUCTIONS

OUTDOORS

1. Position cutting station so that wind will blow dust away from user and others in working area.

2. Use one of the following methods:

- a. Best: 1. Shears (manual, electric or pneumatic)
- b. Better: 1. Dust reducing circular saw equipped with a HardieBlade® saw blade and HEPA vacuum extraction
- c. Good: 1. Dust reducing circular saw with a HardieBlade saw blade (only use for low to moderate cutting)

INDOORS

- 1. Cut only using shears (manual, electric or pneumatic).
- 2. Position cutting station in well-ventilated area

- NEVER use a power saw indoors
- NEVER use a circular saw blade that does not carry the HardieBlade saw blade trademark
- NEVER dry sweep - Use wet suppression or HEPA Vacuum

Important Note: For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best"-level cutting methods where feasible.

NIOSH-approved respirators can be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at www.jameshardie.com to help you determine the most appropriate cutting method for your job requirements. If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

SD063115

GENERAL REQUIREMENTS:

HardieShingle® panels can be installed over braced wood or steel studs spaced a maximum of 24" o.c. or directly to minimum 7/16" thick sheathing. See general fastening requirements.

Information on installing James Hardie products over foam can be located in JH Tech Bulletin 19 at www.jamehardie.com

A water-resistive barrier is required in accordance with local building code requirements. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements. James Hardie will assume no responsibility for water infiltration. James Hardie does manufacture HardieWrap® Weather Barrier, a non-woven non-perforated housewrap¹, which complies with building code requirements.

When installing James Hardie® products all clearance details in figs. 1, 2, 3, 4, 5, 6 & 7 must be followed.

Adjacent finished grade must slope away from the building in accordance with local building codes - typically a minimum of 6" in the first 10'.

Do not install James Hardie products, such that they may remain in contact with standing water.

HardieShingle panels may be installed on vertical wall applications only.

DO NOT use stain on James Hardie® products.

CLEARANCES

Install siding and trim products in compliance with local building code requirements for clearance between the bottom edge of the siding and the adjacent finished grade.

Maintain a minimum 2" clearance between James Hardie® products and paths, steps and driveways.

Maintain a minimum 2" clearance between James Hardie products and decking material.

At the juncture of the roof and vertical surfaces, flashing and counterflashing shall be installed per the roofing manufacturer's instructions. Provide a minimum 2" clearance between the roofing and the bottom edge of the siding and trim.

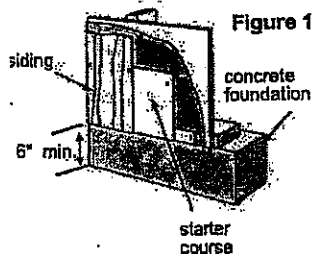


Figure 1

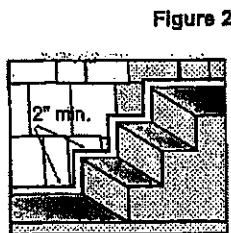


Figure 2

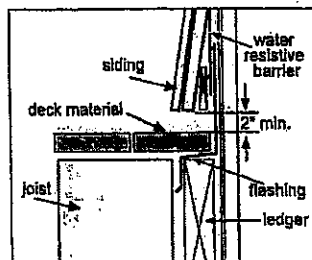


Figure 3

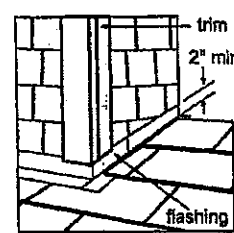


Figure 4

¹For additional information on HardieWrap® Weather Barrier, consult James Hardie at 1-866-4HARDIE or www.hardiewrap.com

† The illustration (figure 7) and associated text was reprinted with permission of THE JOURNAL OF LIGHT CONSTRUCTION. For subscription information, visit www.jlconline.com.

WARNING: AVOID BREATHING SILICA DUST

James Hardie® products contain respirable crystalline silica, which is known to the State of California to cause cancer and is considered by IARC and NIOSH to be a cause of cancer from some occupational sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) use fiber cement shears for cutting or, where not feasible, use a HardieBlade® saw blade and dust-reducing circular saw attached to a HEPA vacuum; (3) warn others in the immediate area; (4) wear a properly-fitted, NIOSH-approved dust mask or respirator (e.g. N-95) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods - never dry sweep. For further information, refer to our installation instructions and Material Safety Data Sheet available at www.jameshardie.com or by calling 1-800-9HARDIE (1-800-942-7343). FAILURE TO ADHERE TO OUR WARNINGS, MSDS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

SD063115

Maintain a 1/4" clearance between the bottom of James Hardie® products and horizontal flashing. Do not caulk gap.

Maintain a minimum 1" gap between gutter end caps and siding & trim.

Figure 5

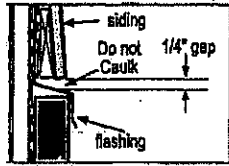


Figure 6

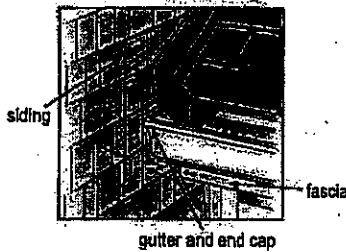
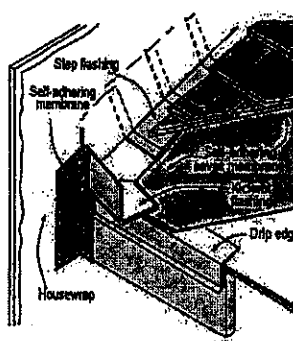


Figure 7



KICKOUT FLASHING

Because of the volume of water that can pour down a sloped roof, one of the most critical flashing details occurs where a roof intersects a sidewall. The roof must be flashed with step flashing. Where the roof terminates, install a kickout to deflect water away from the siding.

It is best to install a self-adhering membrane on the wall before the subfascia and trim boards are nailed in place, and then come back to install the kickout.

Figure 7, Kickout Flashing To prevent water from dumping behind the siding and the end of the roof intersection, install a "kickout" as required by IRC code R905.2.8.3: "...flashing shall be a min. of 4" high and 4" wide." James Hardie recommends the kickout be angled between 100° - 110° to maximize water deflection

TRIM CONSIDERATION:

Minimum 1" trim thickness is needed as Panels stack at a depth of roughly 15/16" for the 7" reveal. If additional trim depth is desired, you can place a spacer under the trim (Fig. 8C & 8D) DO NOT install trim over HardieShingle.

Figure 8A

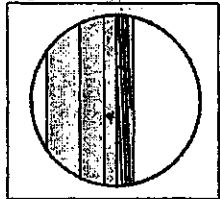


Figure 8B

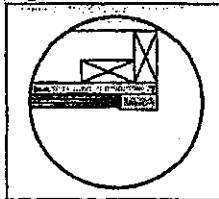


Figure 8C

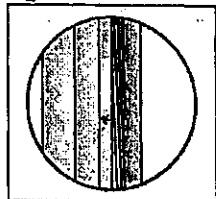


Figure 8D



GABLE INSTALLATION:

Installation over sheathing is recommended for gables.

- 1) Find the center stud of your of your Gable and snap a chalk line down
- 2) Measure out 16" to both the left and the right of the center line and snap a chalk line
- 3) Measure up 2" if you are off a roof line or 1/4" if you are starting above a band board
- 4) Set the bottom of your 1 1/4" starter strip at that line
- 5) Place your 8 1/4" Starter Course -bottom level with the bottom of the starter strip
- 6) Set your first row of Shingle - starting the first piece at the vertical line left of center (If you are using staggered edged shingles Trim down the first row to the shortest shingle length)
- 7) Drive nails approximately 1/4" above Key ways 5 per full panel Center Nail can be either one of the keyways. (Stay by keyway to avoid shiners) (EX1) Blue Dots show nail placement
- 8) Measure up 7" with straight and 6" with Staggered edge and snap a chalk line to get your proper exposure
- 9) The second row will start at the center line
- 10) The Third row will start at the line right of center
- 11) As you work your way up the gable make sure you Keep your Cut Pieces you will use the pieces on the edges of the gable (EX2)
- 12) Edges Gable butting into trim leave a 1/8" Gap (for house movement and Caulking)
- 13) Make sure to sure siding nails on the small pieces on the edges (Do not use a trim nail to install!)

Figure 9

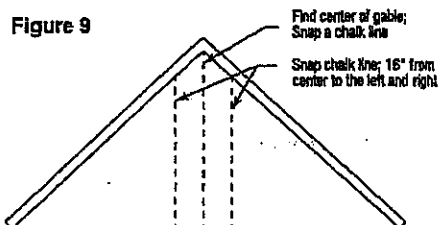


Figure 10

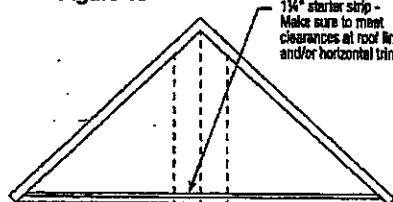


Figure 11

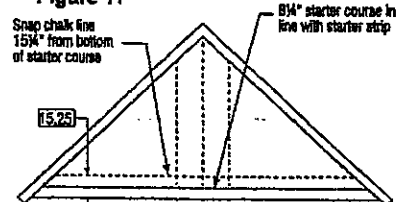


Figure 12

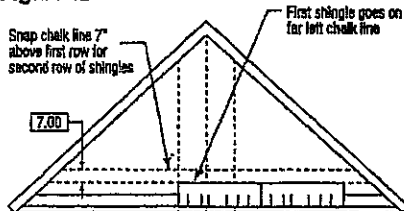


Figure 13

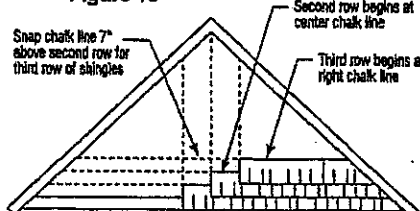
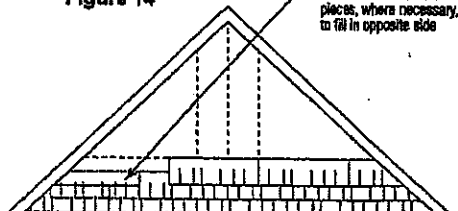


Figure 14



ARDIESHINGLE® STAGGERED EDGE PANELS INSTALLATION

Installer Requirements

0.83" x 0.187" HD x 1 1/2" long ringshank nails are used for fastening HardieShingle® Staggered Edge Panels to both framing and to 7/16" thick APA rated sheathing.

HardieShingle® Staggered Edge Panel Installation

Install HardieShingle® panels with joints butted in moderate contact. Due to overlapping of the joints, caulk is not required except where panels abut trim boards. (fig. 13 & 15). Ensure keyways do not line up on subsequent courses. Install a 1-1/4" starter strip, then install a 8-1/4" wide HardiePlank® lap siding starter course.

Place first panel so that panel end centers over stud. Trim panel as needed. Butt the cut end into trim as shown (figs 13 & 15). When installing over a band board or any horizontal surface, leave 4" gap between bottom of siding and flashing.

Secure panel, leaving 1/8" gap for caulk at trim and continue the course along the wall.

Start the second course, by removing the equivalent of one full stud width (16" or 24" OC), again abutting the cut end into the trim (figs 13 & 15). This is to prevent pattern repetition. Repeat step 3.

Start the third course, by removing the equivalent of two full stud widths (figs 13 & 15) and repeat step 3.

Continue up the wall repeating steps 2 through 6 until desired height is reached.

Note: For aesthetic purposes you may trim the bottom of the panel to create a straight edge. If doing so, ensure all cut ends are properly sealed and painted (fig 14)

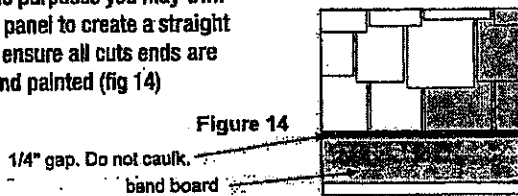


Figure 14

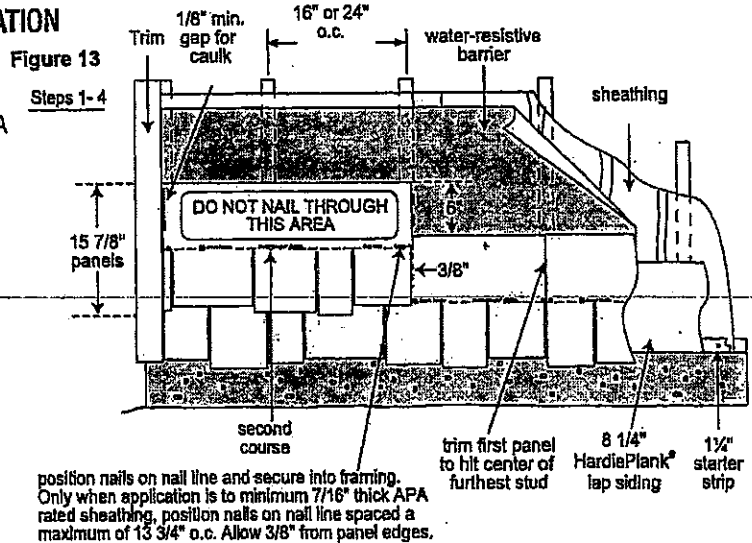
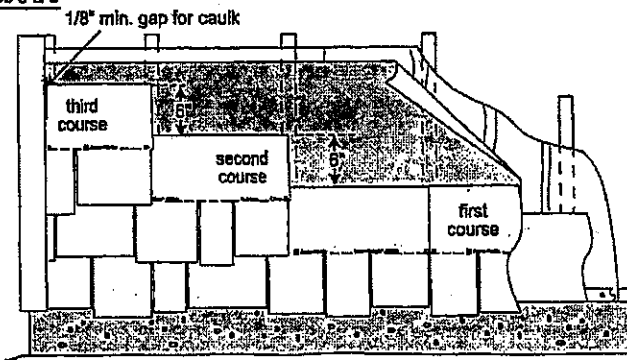


Figure 13
Steps 1-4

Position nails on nail line and secure into framing. Only when application is to minimum 7/16" thick APA rated sheathing, position nails on nail line spaced a maximum of 13 3/4" o.c. Allow 3/8" from panel edges.

Steps 5 & 6



HARDIESHINGLE® STAGGERED EDGE PANEL COVERAGE

Panels for sidewall applications are available in 48" lengths. Pieces needed for one square (100sq.ft.) of product coverage = approximately 50, based on a maximum 6" exposure from the top edge of HardieShingle panels in subsequent courses (refer to Figure 13).

7" EXPOSURE HARDIESHINGLE® STRAIGHT EDGE PANELS INSTALLATION (For 5" exposure product please go to page 6)

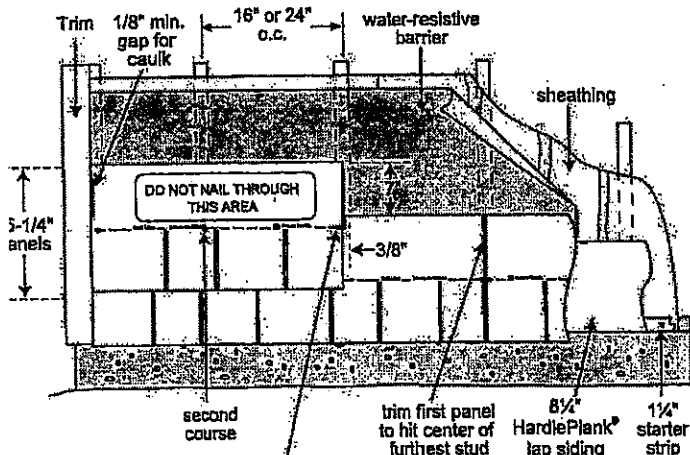
Maximum Exposure of 7"

REFER TO STAGGERED EDGE INSTRUCTIONS ABOVE

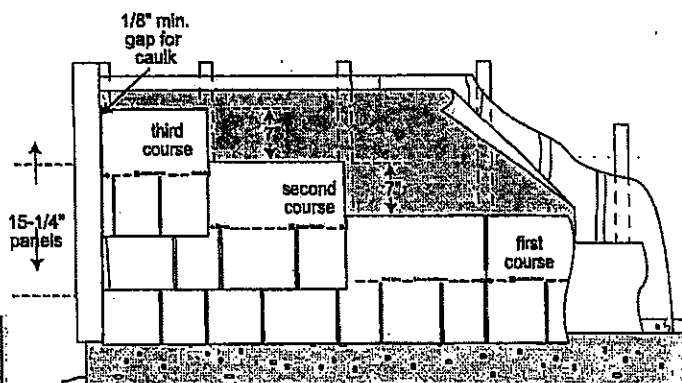
Steps 1-4

Figure 15

Steps 5 & 6



Position nails on nail line and secure into framing. Only when application is to minimum 7/16" thick APA rated sheathing, position nails on nail line spaced a maximum of 13 3/4" o.c. Allow 3/8" from panel edges.



HARDIESHINGLE® STRAIGHT EDGE PANEL COVERAGE

Panels for sidewall applications are available in 48" lengths. Pieces needed for one square (100sq.ft.) of product coverage = approximately 43, based on maximum 7" exposure.

HARDIESHINGLE® INDIVIDUAL SHINGLE INSTALLATION

HardieShingle® Individual Shingles must be installed with the widest part of the shingle placed downwards and directly to minimum 7/16" thick sheathing.

Fastener Requirements

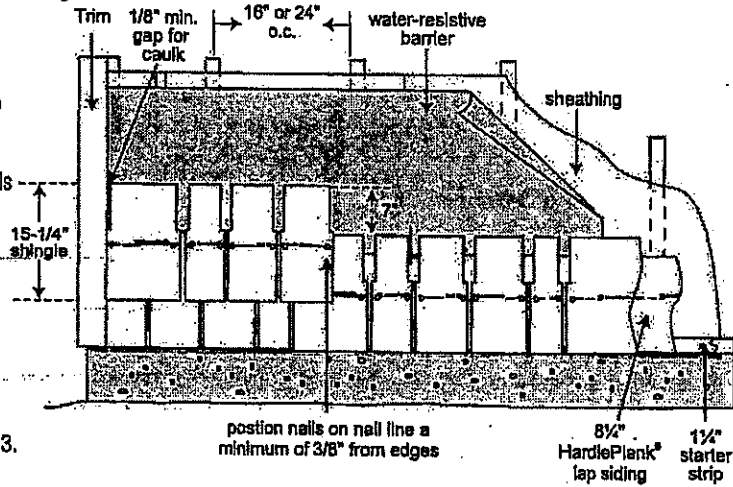
0.091" x 0.221" HD x 1 1/2" or 0.121" x 0.371" HD x 1 1/4" long corrosion resistant siding nails are used for fixing HardieShingle siding to 7/16" thick APA rated sheathing.

HardieShingle® Individual Shingle Installation

Due to overlapping of the joints, caulk is not required except where panels abut trim boards. Space shingles a maximum 1/4" apart and leave a minimum lap of 1 1/2" between successive courses (fig. 17).

- 1) Install 1 1/4" starter strip and a 8 1/4"-wide HardiePlank® siding starter course.
- 2) Install first shingle from the end abutting trim. Install widest part of shingle placed downwards. (fig. 16).
- 3) Secure shingle, leaving a 1/8" gap for caulk at trim and continue the course along the wall.
- 4) Start the second course, leaving a minimum lap of 1 1/2" between successive courses, again from the end abutting the trim. Repeat step 3.
- 5) Continue up the wall repeating steps 2 through 5 until desired height is reached.

Figure 16

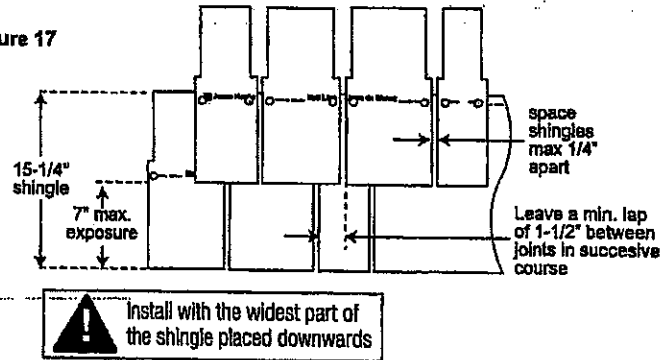


HARDIESHINGLE® INDIVIDUAL SHINGLE COVERAGE

Individual Shingles for sidewall applications are available in assorted widths as listed below. Bundles needed for one square (100 sq. ft.) of product coverage:

Shingle Width	Number of Bundles	Pieces per Bundle
4-3/16"	3	15
5-1/2"	6	15
6-3/4"	3	15
7-1/4"	6	15
10"	3	15

Figure 17



HARDIESHINGLE® HALF-ROUND PANELS INSTALLATION

Fastener Requirements

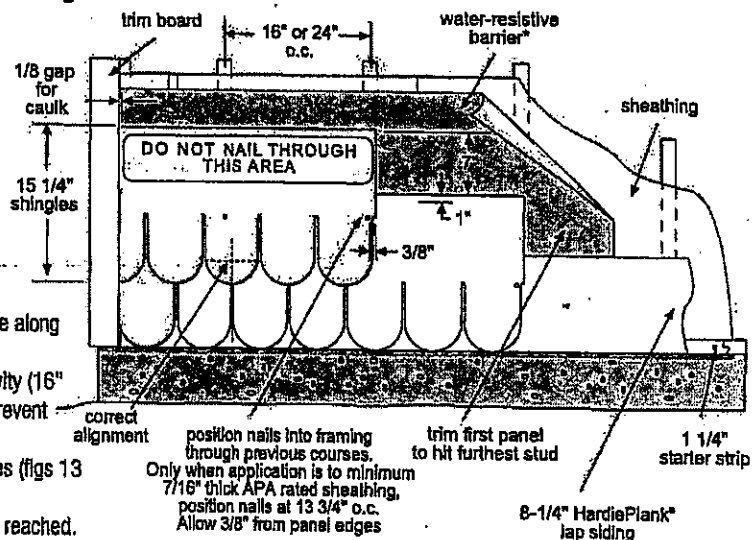
0.083" x 0.187" HD x 1 1/2" long ringshank nails are used for fastening HardieShingle® Half-Round Panels to both framing and to 7/16" thick APA rated sheathing.

HardieShingle Half-Round Panel Installation

Install HardieShingle® panels with joints butted in moderate contact. Due to overlapping of the joints, caulk is not required except where panels abut trim boards. (fig. 18). Ensure keyways do not line up on subsequent courses.

- 1) Install a 1-1/4" starter strip, then install a 8-1/4" wide HardiePlank® lap siding starter course.
- 2) Place first panel so that panel end centers over stud. Trim panel as needed. Butt the cut end into trim as shown (figs 18). When installing over a band board or any horizontal surface, leave 1/4" gap between bottom of siding and flashing.
- 3) Secure panel, leaving 1/8" gap for caulk at trim and continue the course along the wall.
- 4) Start the second course, by removing the equivalent of one full stud cavity (16" or 24" OC), again abutting the cut end into the trim (fig 18). This is to prevent pattern repetition. Repeat step 3.
- 5) Start the third course, by removing the equivalent of two full stud cavities (figs 13 & 15) and repeat step 3.
- 6) Continue up the wall repeating steps 2 through 6 until desired height is reached.

Figure 18



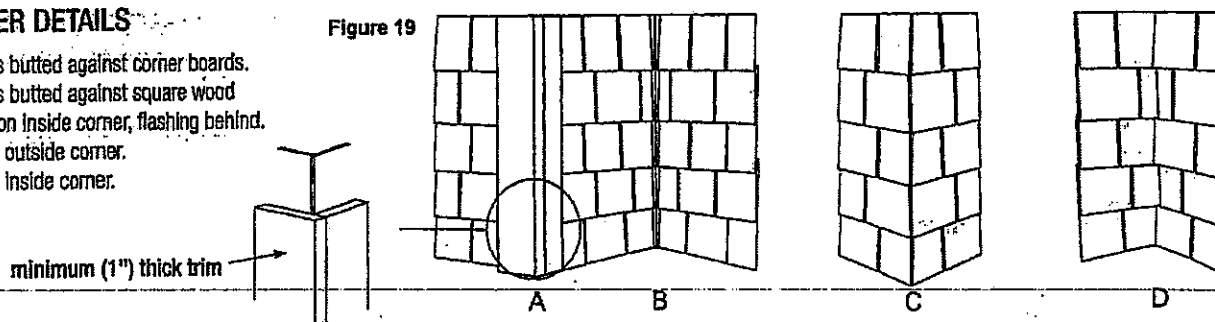
HARDIESHINGLE HALF-ROUND PANEL COVERAGE

Panels for sidewall applications are available in 48" lengths. Pieces needed for one square (100 sq. ft.) of product coverage=43 pieces with 7" exposure.

CORNER DETAILS

- A. Panels butted against corner boards.
- B. Panels butted against square wood strip on inside corner, flashing behind.
- C. Laced outside corner.
- D. Laced inside corner.

Figure 19



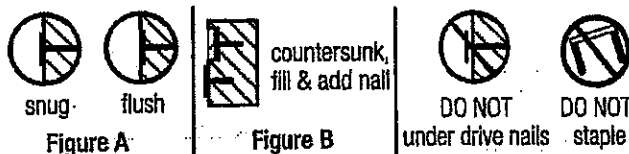
WINDOWS AND DOORS

Building wall components such as windows, doors and other exterior wall penetrations shall be installed in accordance with the component manufacturer's written installation instructions and local building codes. Where windows or doors are installed, continue the application of siding as if the wall is complete. Trimming for the opening and using the resulting piece may throw off the spacing above the break.

GENERAL FASTENING REQUIREMENTS

Fasteners must be corrosion resistant, galvanized, or stainless steel. Electro-galvanized are acceptable but may exhibit premature corrosion. James Hardie recommends the use of quality, hot-dipped galvanized nails. James Hardie is not responsible for the corrosion resistance of fasteners. Stainless steel fasteners are recommended when installing James Hardie® products near the ocean, large bodies of water, or in very humid climates.

- Consult applicable product evaluation or listing for correct fasteners type and placement to achieve specified design wind loads.
- NOTE: Published wind loads may not be applicable to all areas where Local Building Codes have specific jurisdiction. Consult James Hardie Technical Services if you are unsure of applicable compliance documentation.
- Drive fasteners perpendicular to siding and framing.
- Fastener heads should fit snug against siding (no air space). (fig. A)
- Do not over-drive nail heads or drive nails at an angle.
- If nail is countersunk, fill nail hole and add a nail. (fig. B)
- For wood framing, under driven nails should be hit flush to the plank with a hammer (For steel framing, remove and replace nail).
- Do not use aluminum fasteners, staples, or clipped head nails.



PNEUMATIC FASTENING

James Hardie products can be hand nailed or fastened with a pneumatic tool. Pneumatic fastening is highly recommended. Set air pressure so that the fastener is driven snug with the surface of the siding. A flush mount attachment on the pneumatic tool is recommended. This will help control the depth the nail is driven. If setting the nail depth proves difficult, choose a setting that under drives the nail. (Drive under driven nails snug with a smooth faced hammer - Does not apply for installation to steel framing).

CUT EDGE TREATMENT

Caulk, paint or prime all field cut edges. James Hardie touch-up kits are required to touch-up ColorPlus products.

CAULKING

For best results use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. Note: DSI Quad as well as some other caulking manufacturers DO NOT allow tooling.

PRIMING & PAINTING

DO NOT use stain on James Hardie® products. James Hardie® products must be painted within 180 days for primed-product and 90 days for unprimed. In addition non ColorPlus® product versions of HardieShingle® Siding require a field applied prime coat. 100% acrylic primers and topcoats are recommended. Do not paint when wet. For application rates refer to paint manufacturers specifications. Back rolling is recommended when paint is spray applied.

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

- Care should be taken when handling and cutting James Hardie ColorPlus products. At the job-site use a soft cloth to gently wipe any residue or construction dust left on the product.
- Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch up applicator. Touch-up should be used sparingly. If large areas require touch-up, replace the damaged area with new HardieShingle® siding with ColorPlus Technology.
- Laminate sheet must be removed immediately after installation of each course.
- Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus® product dealer.
- Treat all other non-factory cut edges using the ColorPlus Technology edge coaters, available from your ColorPlus product dealer.

Note: James Hardie does not warrant the usage of third party touch-up or paints used as touch-up on James Hardie ColorPlus products.

Problems with appearance or performance arising from use of third party touch-up paints or paints used as touch-up that are not James Hardie touch-up, will not be covered under the James Hardie ColorPlus Limited Finish Warranty.

PAINTING JAMES HARDIE® SIDING AND TRIM PRODUCTS WITH COLORPLUS® TECHNOLOGY

When repainting ColorPlus products, James Hardie recommends the following regarding surface preparation and topcoat application:

- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew
- Repriming is normally not necessary
- 100% acrylic topcoats are recommended
- DO NOT use stain or oil/alkyd base paints on James Hardie® products
- Apply finish coat in accordance with paint manufacturers written instructions regarding coverage, application methods, and application temperature
- DO NOT caulk nail heads when using ColorPlus products, refer to the ColorPlus touch-up section

5" EXPOSURE HARDIESHINGLE® STRAIGHT EDGE PANELS INSTALLATION (For 7" exposure product please go to page 3)

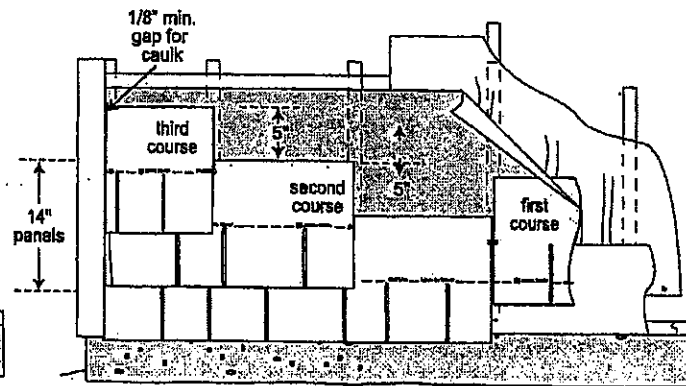
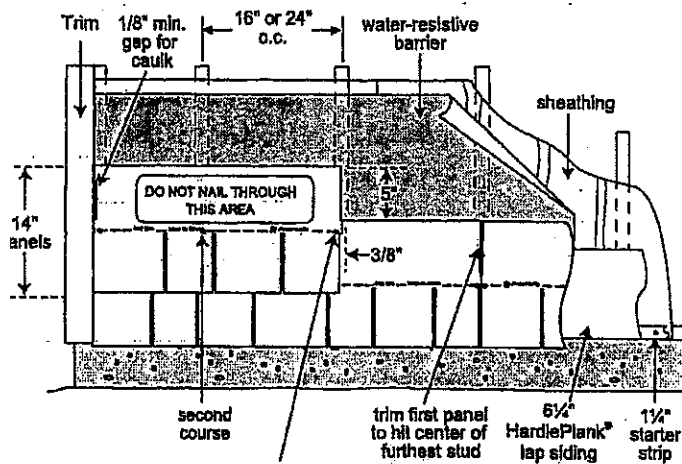
Maximum Exposure of 5"

REFER TO STAGGERED EDGE INSTRUCTIONS ON PAGE 3

Steps 1 - 4

Figure 20

Steps 5 & 6



Position nails on nail line and secure into framing. Only when application is to minimum 7/16" thick APA rated sheathing, position nails on nail line spaced a maximum of 13 3/4" o.c. Allow 3/8" from panel edges.

HARDIESHINGLE® STRAIGHT EDGE PANEL COVERAGE

14" panels for sidewall applications are available in 48" lengths. Pieces needed for one square (100sq.ft.) of product coverage = approximately 60, based on maximum 5" exposure.

HARDIESHINGLE® INDIVIDUAL SHINGLE INSTALLATION

Figure 16

HardieShingle® Individual Shingles must be installed with the widest part of the shingle placed downwards and directly to minimum 7/16" thick sheathing.

Fastener Requirements

0.091" x 0.221" HD x 1 1/2" or 0.121" x 0.371" HD x 1 1/4" long corrosion resistant siding nails are used for fixing HardieShingle siding to 7/16" thick APA rated sheathing.

HardieShingle® Individual Shingle Installation

Due to overlapping of the joints, caulk is not required except where panels abut trim boards. Space shingles a maximum 1/4" apart and leave a minimum lap of 1 1/2" between successive courses (fig. 17).

- 1) Install 1 1/4" starter strip and a 6 1/4" wide HardiePlank® siding starter course.
- 2) Install first shingle from the end abutting trim. Install widest part of shingle placed downwards. (fig. 16).
- 3) Secure shingle, leaving a 1/8" gap for caulk at trim and continue the course along the wall.
- 4) Start the second course, leaving a minimum lap of 1 1/2" between successive courses, again from the end abutting the trim. Repeat step 3.
- 5) Continue up the wall repeating steps 2 through 5 until desired height is reached.

5" EXPOSURE HARDIESHINGLE® INDIVIDUAL SHINGLE COVERAGE

Individual Shingles for sidewall applications are available in assorted widths as listed below. Bundles needed for one square (100 sq. ft.) of product coverage:

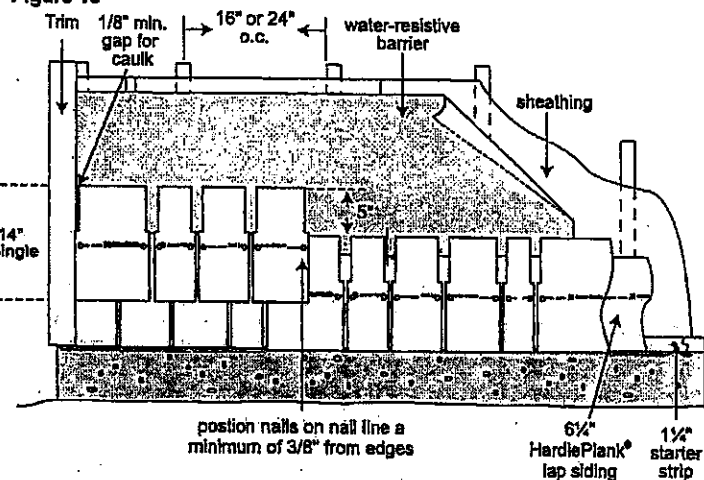
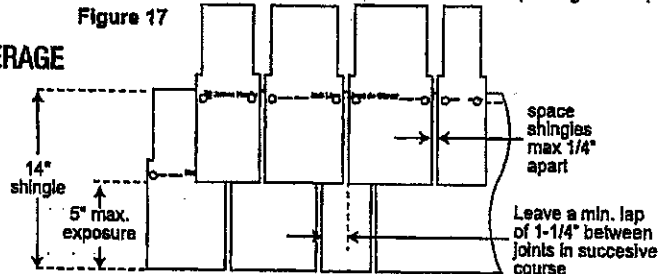


Figure 17



! Install with the widest part of the shingle placed downwards

Shingle Width	Number of Bundles	Pieces per Bundle
3-1/2"	3	20
4-1/2"	6	20
5-1/2"	6	20
7"	6	20
8-3/4"	3	20

RECOGNITION: In accordance with ICC-ES Legacy Report NER-405, HardieShingle® Staggered Edge Panels are recognized as a suitable alternate to that specified in: the BOCA National Building Code/1999, the 1997 Standard Building Code, the 1997 Uniform Building Code, the 1998 International One- and Two-Family Dwelling Code, the 2003 International Building Code, and the 2003 International Residential Code for One- and Two-Family Dwellings. HardieShingle Staggered Edge Panels are also recognized for application in the following: City of Los Angeles Research Report No. 24862, State of Florida listing FL#889 .02, U.S. Dept. of HUD Materials Release 1263c, Texas Department of Insurance Product Evaluation EC-23, City of New York MEA 223-93-M, and California DSA PA-019. These documents should also be consulted for additional information concerning the suitability of this product for specific applications.

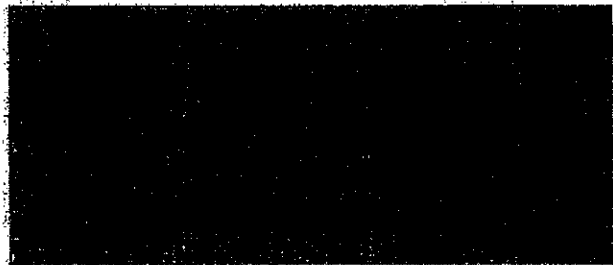
HardiePanel®

HardiePanel® Vertical Siding Product Description

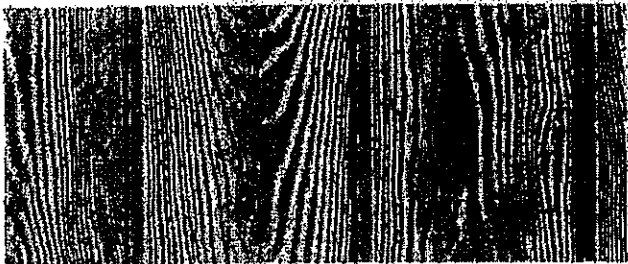
HardiePanel® vertical siding is factory-primed fiber-cement vertical siding available in a variety of sizes and textures. Examples of these are shown below. Textures include smooth, stucco, Cedarmill® and Sierra 8. HardiePanel vertical siding is $\frac{5}{16}$ -in. thick and is available in 4x8, 4x9 and 4x10 sizes. Please see your local James Hardie dealer for texture and size availability.

HardiePanel vertical siding is available as a prefinished James Hardie® product with ColorPlus® Technology. The ColorPlus coating is a factory applied, oven baked finish available on a variety of James Hardie siding and trim products. See your local dealer for availability of products, color and accessories.

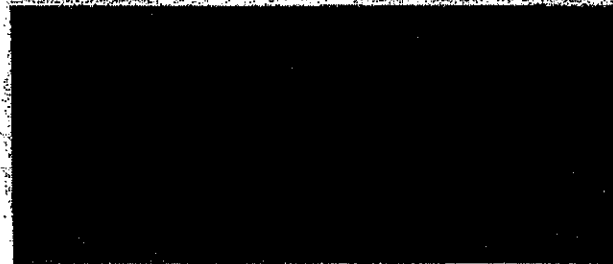
Stucco



Cedarmill®



Sierra 8



Smooth

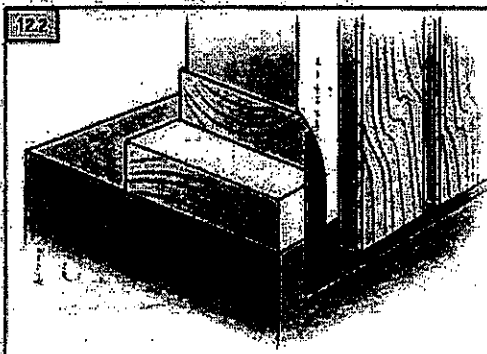
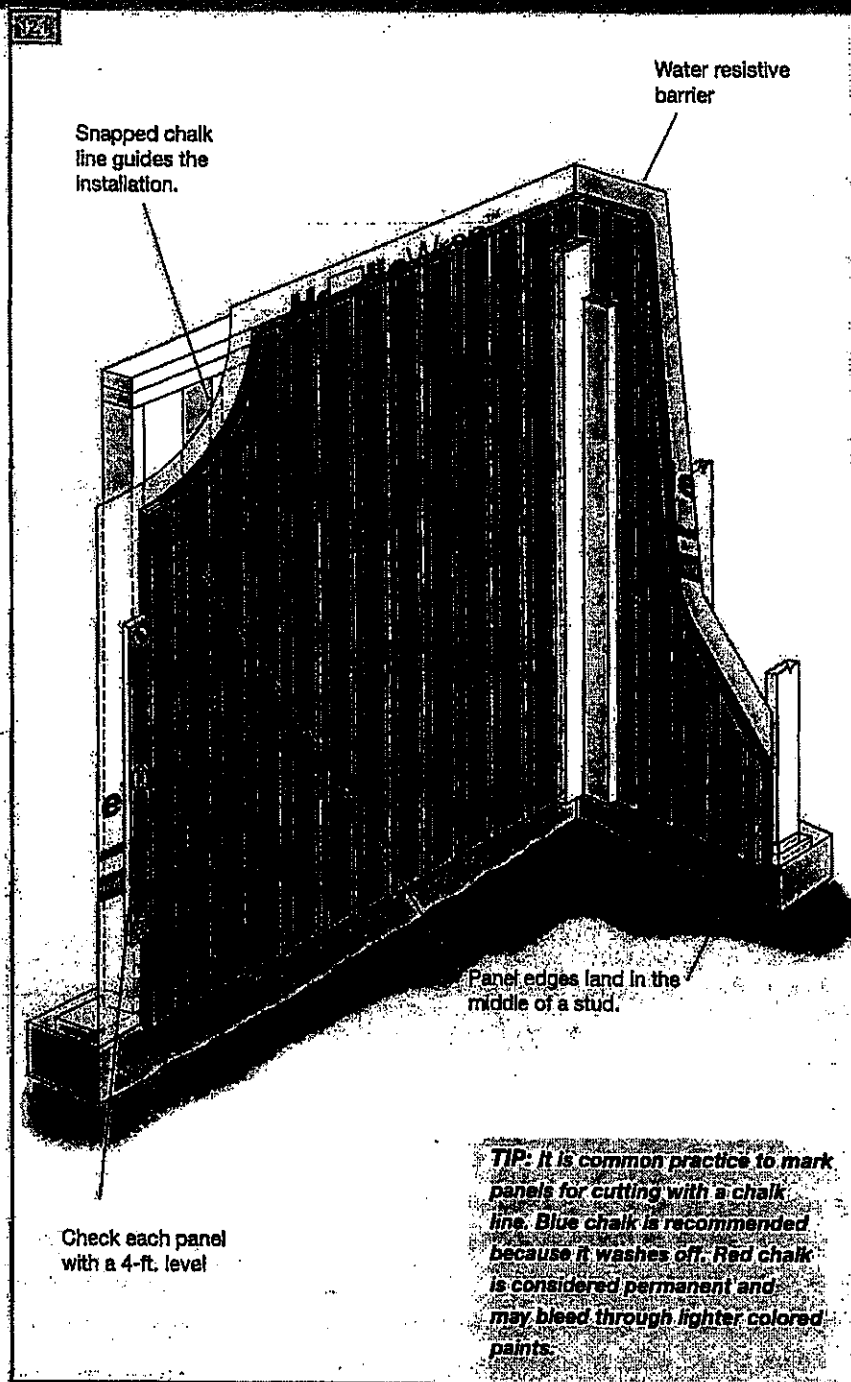


Installation of HardiePanel® Vertical Siding

GETTING STARTED

First locate the lowest point of the sheathing or sill plate, and begin installation on that wall.

- 1) Measure up from the sill plate the height of the panels at either end of the wall and snap a straight, level chalk line between the marks as a reference line. That line is for guidance in positioning the top edge of the panels. Check the reference line with a 4-ft. level.
- 2) Starting on one end and working across the wall, measure and trim the first panel making sure that the edge falls in the middle of a stud.
- 3) Using the chalk line as a guide along the panel's top edge, carefully position the panel and secure it with suitable fasteners and fastener spacing for the particular application as noted in the ESR-1844 Report.
- 4) As installation continues, check the vertical edge of each panel with a 4-ft. level.



TIP: Install flashing over the footing/foundation and extend the panel over the flashing just below the sill plate. Do not extend siding beyond the required grade clearances.

TIP: For Sierra 8 panels, double studs at each panel joint allows fasteners to be placed outside of panel grooves.



Product Information

Safety

Cutting and Fastening

Insulation Requirements

Fastener Requirements

Maintenance

Weather Barrier

Boards/Sheets

Panel

Lap Siding

Shingle

Vertical Siding

Glossary

ESR-1844 & Z280 Report

Installation of HardiePanel® Vertical Siding (continued)

VERTICAL JOINT TREATMENT

Treat vertical joints in HardiePanel® vertical siding by using one of the following four methods:

- 1) Install the panels in moderate contact with joint flashing.
- 2) Leave an appropriate gap between panels (1/8 in. is the most common), and caulk using a high-quality paintable caulk, that meets ASTM C-834 or C-920 requirements. (Not recommended for ColorPlus)

Panels may be installed first with caulk applied in the joints after installation; or as an option, after the first panel is installed, apply a bead of caulk along the panel edge. When the next panel is installed against the first, the edge embeds in the applied caulk creating a thorough seal between the edges of the panels.

WARNING

The caulk method is not recommended for the ColorPlus® products.

DON'T caulk nail heads when installing ColorPlus products.

- 3) Vertical joints may be covered with wood or fiber-cement batten strips. If James Hardie® siding or trim products are ripped and used as batten strips, paint or prime the cut edges. Batten strips should span the vertical joint by at least 3/4 in. on each side.

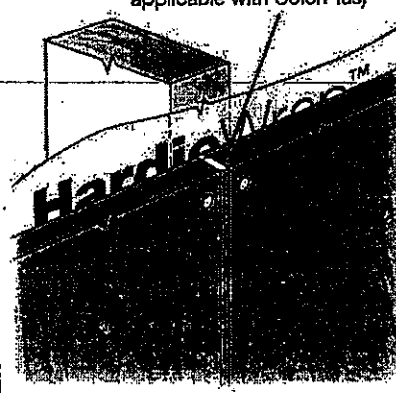
- 4) Metal or PVC "H" moldings can be used to join two sections of HardiePanel siding.

TIP: Stainless steel fasteners are recommended when installing James Hardie products.

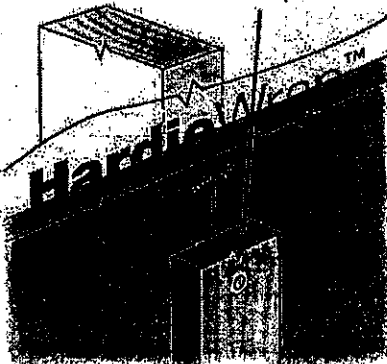
1 Moderate contact joint with joint flashing
Panels are butted together lightly.



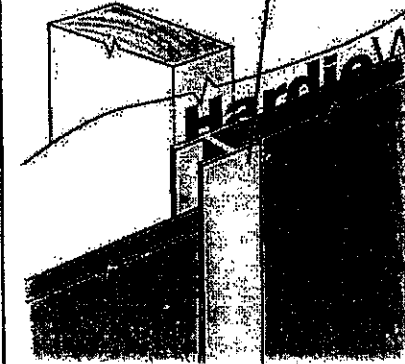
2 Caulked joint
1/8-in. gap left between panels is filled with caulk. (not applicable with ColorPlus)



3 Battened joint
HardieTrim® batten board covers the joint between panels.



4 H-Channel joint
A manufactured H-channel captures the vertical edges of the panels.



HARDIEPANEL SIDING FASTENER SPECIFICATIONS

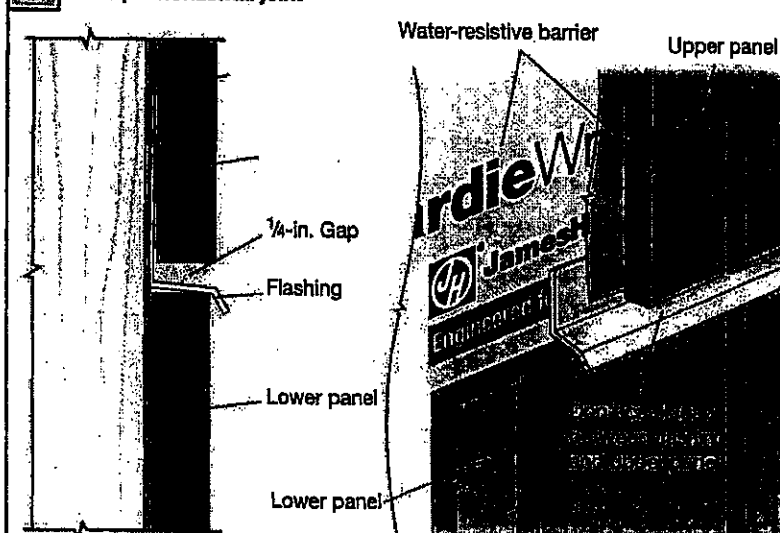
Fastening Substrate	Fastener	Fastening Types
wood studs	16" o.c.	1 .118" x .267" x 1.5" 4d
		2 .118" x .267" x 2" 6d
	24" o.c.	5 .091" x .221" x 1.5" ring shank siding nail
		9 [11 GA] .121" x .371" x 1.25" roofing nail
steel studs	16" o.c. or 24" o.c.	7 Ribbed Bugle-Head No. 8 (.323" x 1.625") screw
		13 [AGS-100] .100" x .25" x 1.5" ET&F
7/16" OSB or equivalent		15 Ribbed Wafer-Head No. 8 (.375" x 1 5/8") screw

HORIZONTAL JOINT TREATMENT

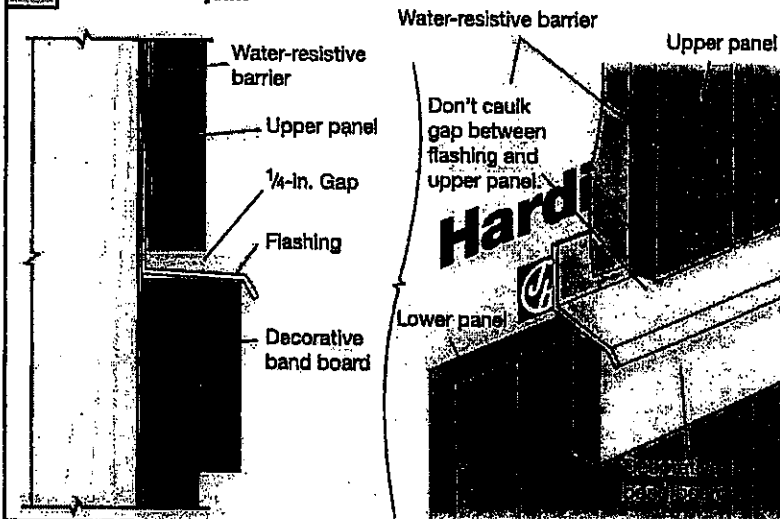
In some applications such as multi-story structures or at gable ends, it may be necessary to stack HardiePanel® siding. The horizontal joints created between panels must be flashed properly to minimize water penetration. Treat horizontal panel joints by using one of the following methods:

- 1) After installing the lower course of panel siding, install vinyl or coated aluminum "Z" flashing at the top edge of the panel. Make sure that the flashing is sloped away from the wall and does not rest flat on the top edge of the panel. Install the second level or gable panels leaving a 1/4-in. minimum gap between the bottom of the panel and the Z flashing. This gap should never be caulked.
- 2) As an alternative, if a horizontal band board is used at the horizontal joint, flashing must extend over the panel edge and trim attachment. Flashing for both treatments must slip behind the water-resistive barrier.

127 1 Simple horizontal joint



128 2 Band-board joint

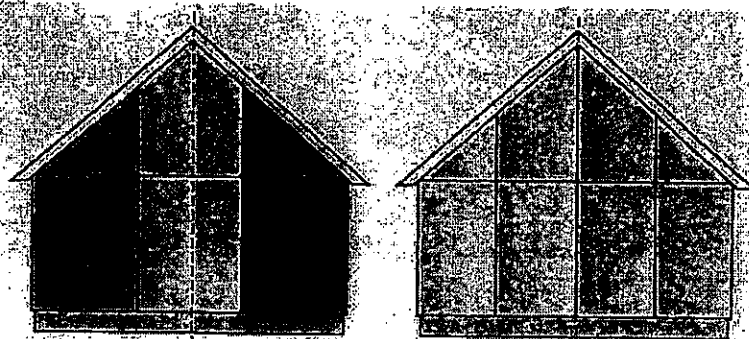


TIP: For best looking installation of HardiePanel Select Sierra & siding, carefully align vertical panel grooves at 1st to 2nd story or gable junctures.

WARNING

Do not bridge floors with panel siding. A horizontal joint should always be created between floors.

TIP: For the most symmetrical looking wall, plan the installation so that a full panel is centered on the wall or gable with equal-size panels cut for each end. As an alternative, plan the installation so that a full panel is located on either side of the wall center, again leaving equal-size panels on each end. These strategies might entail a centered framing layout. Choose the strategy that looks the best and uses material most efficiently.



Installation of HardiePanel® Vertical Siding (continued)

WINDOWS, DOORS, AND OTHER WALL PENETRATIONS

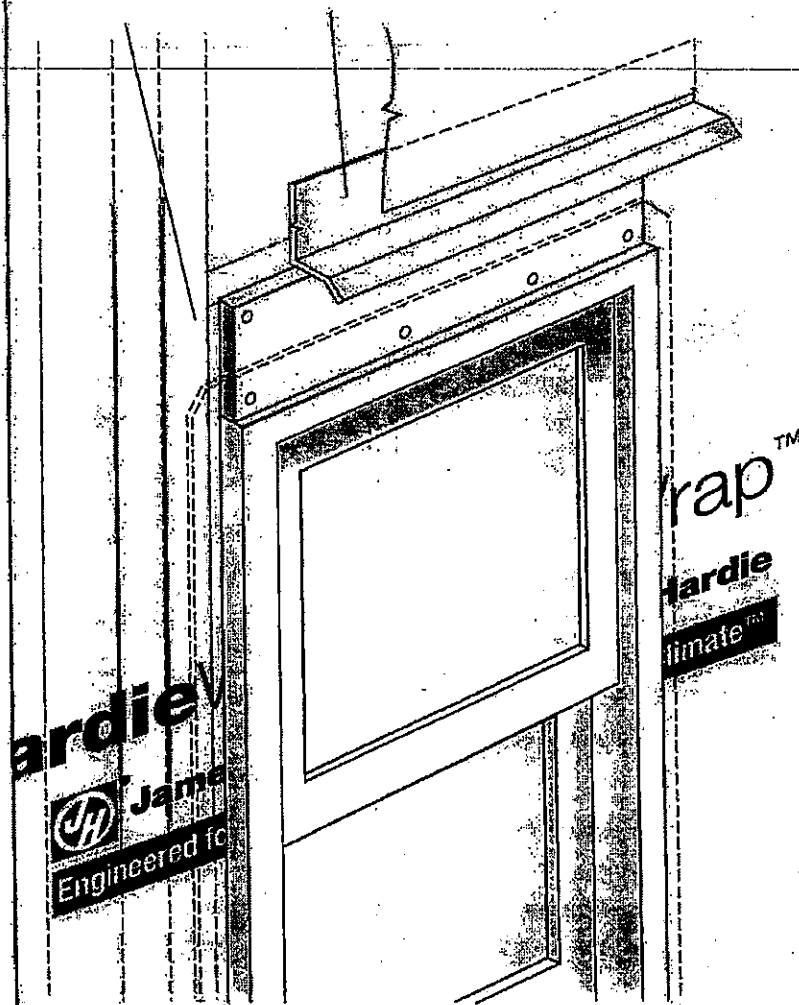
In panel installations, trim is typically overlaid on top of the panel. Special attention needs

to be paid to trim flashing at the tops of openings. Below is one method for properly flashing trim in a panel application:

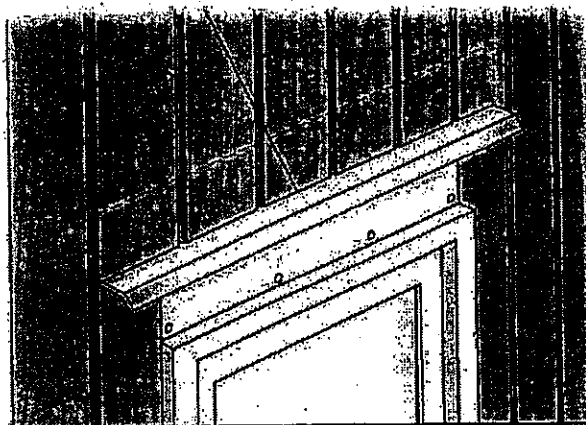
- 1) After installing the window, cut and install a 1/4-in. thick shim above the window. The shim should be the same width as the trim, and it should be as long as width of the window.
- 2) Over the shim install flashing wide enough to cover thickness of the trim and long enough to cover the trim head piece.
- 3) Install the panel to the window and around the shim taking care not to damage the flashing and leaving a 1/4-in. gap between the panel and the horizontal part of the flashing.
- 4) Install the trim around the window, slipping the head piece under the installed flashing.

1 Install 1/4-in. thick shim over the window.

2 Install flashing over the shim and under the water-resistant barrier.



1250 3 Cut and fit panel around the shim and flashing. Leave 1/4-in. gap between the flashing and the upper panel.



1251 4 Install window trim under the flashing.



HardiePanel® H5 Vertical Siding



James Hardie

INSTALLATION REQUIREMENTS - PRIMED & COLORPLUS® PRODUCTS

EFFECTIVE NOVEMBER 2012

Visit www.jameshardie.com for the most recent version.

SMOOTH • CEDARMILL® • SELECT SIERRA 8 • STUCCO

IMPORTANT: FAILURE TO INSTALL AND FINISH THIS PRODUCT IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND JAMES HARDIE WRITTEN APPLICATION INSTRUCTIONS MAY LEAD TO PERSONAL INJURY, AFFECT SYSTEM PERFORMANCE, VIOLATE LOCAL BUILDING CODES, AND VOID THE PRODUCT ONLY WARRANTY. BEFORE INSTALLATION, CONFIRM THAT YOU ARE USING THE CORRECT HARDIEZONE INSTRUCTIONS. TO DETERMINE WHICH HARDIEZONE APPLIES TO YOUR LOCATION, VISIT WWW.HARDIEZONE.COM OR CALL 1-866-942-7343 (866 9HARDIE)

STORAGE & HANDLING:

Store flat and keep dry and covered prior to installation. Installing siding wet or saturated may result in shrinkage at butt joints. Carry planks on edge. Protect edges and corners from breakage. James Hardie is not responsible for damage caused by improper storage and handling of the product.



CUTTING INSTRUCTIONS

OUTDOORS

1. Position cutting station so that wind will blow dust away from user and others in working area.
2. Use one of the following methods:
 - a. Best:
 - i. Score and snap
 - ii. Shears (manual, electric or pneumatic)
 - b. Better:
 - i. Dust reducing circular saw equipped with a HardieBlade® saw blade and HEPA vacuum extraction
 - c. Good:
 - i. Dust reducing circular saw with a HardieBlade saw blade (only use for low to moderate cutting)

INDOORS

1. Cut only using score and snap, or shears (manual, electric or pneumatic).
2. Position cutting station in well-ventilated area

- NEVER use a power saw indoors
- NEVER use a circular saw blade that does not carry the HardieBlade saw blade trademark
- NEVER dry sweep - Use wet suppression or HEPA Vacuum

Important Note: For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best"-level cutting methods where feasible.

NIOSH-approved respirators can be used in conjunction with above cutting practices to further reduce dust exposures. Additional exposure information is available at www.jameshardie.com to help you determine the most appropriate cutting method for your job requirements. If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

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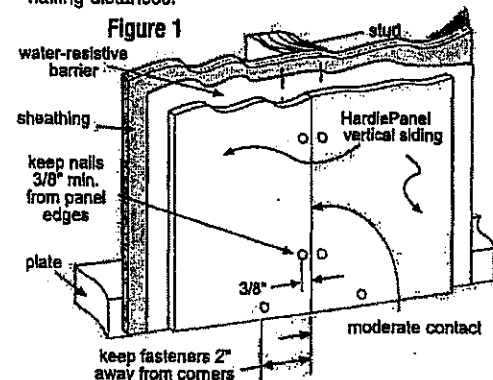
GENERAL REQUIREMENTS:

- HardiePanel® vertical siding can be installed over braced wood or steel studs spaced a maximum of 24" o.c. See general fastening requirements. Irregularities in framing and sheathing can mirror through the finished application.
- Information on installing James Hardie products over foam can be located in JH Tech Bulletin 19 at www.jameshardie.com
- A water-resistive barrier is required in accordance with local building code requirements. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements. James Hardie will assume no responsibility for water infiltration. James Hardie does manufacture HardieWrap™ Weather Barrier, a non-woven non-perforated housewrap¹, which complies with building code requirements.
- When installing James Hardie products all clearance details in figs. 3, 5, 6, 7, 8, 9, 10 & 11 must be followed.
- Adjacent finished grade must slope away from the building in accordance with local building codes - typically a minimum of 6" in the first 10'.
- Do not install James Hardie products, such that they may remain in contact with standing water.
- HardiePanel vertical siding may be installed on vertical wall applications only.
- DO NOT use HardiePanel vertical siding in Fascia or Trim applications.
- DO NOT use stain on James Hardie® products.
- For larger projects, including commercial and multi-family projects, where the span of the wall is significant in length, the designer and/or architect should take into consideration the coefficient of thermal expansion and moisture movement of the product in their design. These values can be found in the Technical Bulletin "Expansion Characteristics of James Hardie® Siding Products" at www.JamesHardie.com.

INSTALLATION:

Fastener Requirements

- Position fasteners 3/8" from panel edges and no closer than 2" away from corners. Do not nail into corners. HardiePanel Vertical Siding Installation
- Framing must be provided at horizontal and vertical edges for nailing.
 - HardiePanel vertical siding must be joined on stud.
 - Double-stud may be required to maintain minimum edge nailing distances.



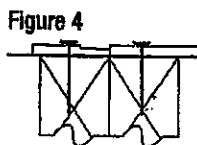
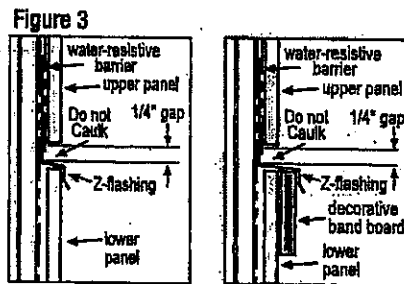
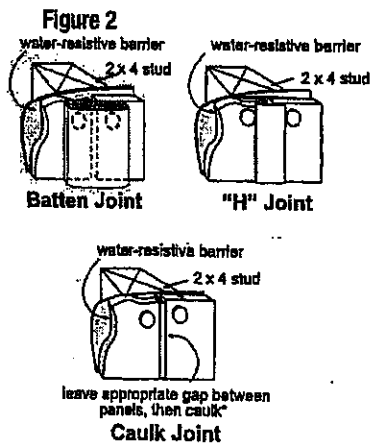
(Not applicable to ColorPlus® Finish)

*Apply caulk in accordance with caulk manufacturer's written application instructions.

¹For additional information on HardieWrap™ Weather Barrier, consult James Hardie at 1-866-4HARDIE or www.hardiewrap.com

Joint Treatment

- Vertical Joints - Install panels in moderate contact (fig. 1), alternatively joints may also be covered with battens, PVC or metal jointers or caulked (Not applicable to ColorPlus® Finish) (fig. 2).
- Horizontal Joints - Provide Z-flashing at all horizontal joints (fig. 3).



Recommendation: When installing Sierra 8, provide a double stud at panel joints to avoid nailing through grooves.

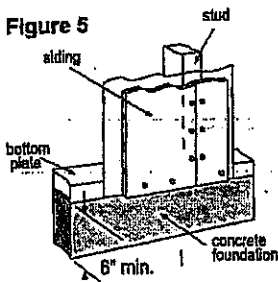
WARNING: AVOID BREATHING SILICA DUST

James Hardie® products contain respirable crystalline silica, which is known to the State of California to cause cancer and is considered by IARC and NIOSH to be a cause of cancer from some occupational sources. Breathing excessive amounts of respirable silica dust can also cause a disabling and potentially fatal lung disease called silicosis, and has been linked with other diseases. Some studies suggest smoking may increase these risks. During installation or handling: (1) work in outdoor areas with ample ventilation; (2) use fiber cement shears for cutting or, where not feasible, use a HardieBlade® saw blade and dust-reducing circular saw attached to a HEPA vacuum; (3) wear others in the immediate area; (4) wear a properly-fitted, NIOSH-approved dust mask or respirator (e.g. N-95) in accordance with applicable government regulations and manufacturer instructions to further limit respirable silica exposures. During clean-up, use HEPA vacuums or wet cleanup methods - never dry sweep. For further information, refer to our Installation Instructions and Material Safety Data Sheet available at www.jameshardie.com or by calling 1-800-9HARDIE (1-800-942-7343). FAILURE TO ADHERE TO OUR WARNINGS, MSDS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

CLEARANCES

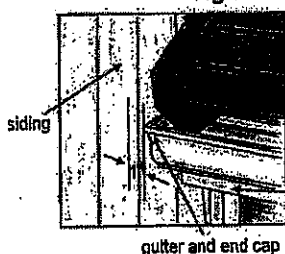
Install siding and trim products in compliance with local building code requirements for clearance between the bottom edge of the siding and the adjacent finished grade.

Figure 5



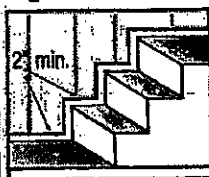
Maintain a minimum 1" gap between gutter end caps and siding & trim.

Figure 9



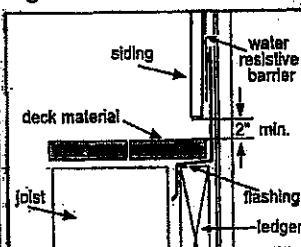
Maintain a minimum 2" clearance between James Hardie® products and paths, steps and driveways.

Figure 6



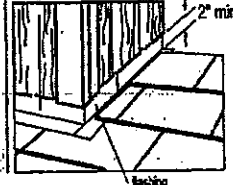
Maintain a minimum 2" clearance between James Hardie products and decking material.

Figure 7



At the juncture of the roof and vertical surfaces, flashing and counterflashing shall be installed per the roofing manufacturer's instructions. Provide a minimum 2" clearance between the roofing and the bottom edge of the siding and trim.

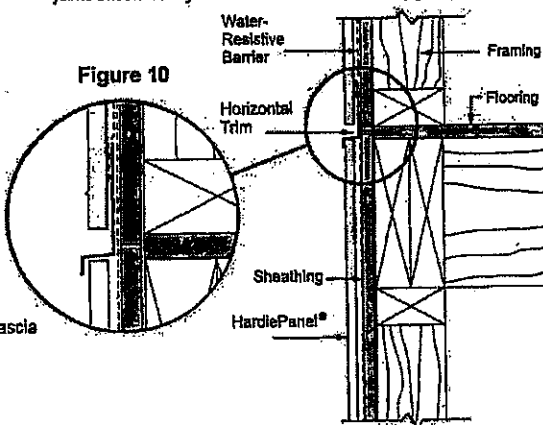
Figure 8



Maintain a 1/4" clearance between the bottom of James Hardie products and horizontal flashing. Do not caulk gap. Refer to fig. 3 on page 1.

Do not bridge floors with HardiePanel® siding. Horizontal joints should always be created between floors (fig. 10).

Figure 10

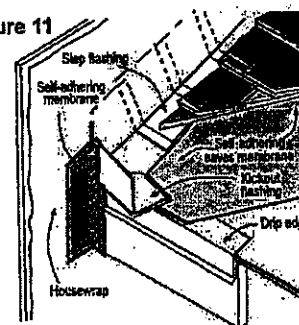


KICKOUT FLASHING

Because of the volume of water that can pour down a sloped roof, one of the most critical flashing details occurs where a roof intersects a sidewall. The roof must be flashed with step flashing. Where the roof terminates, install a kickout to deflect water away from the siding. It is best to install a self-adhering membrane on the wall before the subfascia and trim boards are nailed in place, and then come back to install the kickout.

Figure 11, Kickout Flashing To prevent water from dumping behind the siding and the end of the roof intersection, install a "kickout" as required by IRC code R905.2.8.3: "...flashing shall be a min. of 4" high and 4" wide." James Hardie recommends the kickout be angled between 100° - 110° to maximize water deflection

Figure 11



GENERAL FASTENING REQUIREMENTS

Fasteners must be corrosion resistant, galvanized, or stainless steel. Electro-galvanized are acceptable but may exhibit premature corrosion. James Hardie recommends the use of quality, hot-dipped galvanized nails. James Hardie is not responsible for the corrosion resistance of fasteners. Stainless steel fasteners are recommended when installing James Hardie products near the ocean, large bodies of water, or in very humid climates.

- Consult applicable product evaluation or listing for correct fastener type and placement to achieve specific design wind loads.
- **NOTE:** Published wind loads may not be applicable to all areas where Local Building Codes have specific jurisdiction. Consult James Hardie Technical Services if you are unsure of applicable compliance documentation.
- Drive fasteners perpendicular to siding and framing.
- Fastener heads should fit snug against siding (no air space). (fig. A)
- Do not over-drive nail heads or drive nails at an angle.
- If nail is countersunk, fill nail hole and add a nail. (fig. B)
- For wood framing, under driven nails should be hit flush to the plank with a hammer (for steel framing, remove and replace nail).
- **NOTE:** Whenever a structural member is present, HardiePlank should be fastened with even spacing to the structural member. The tables allowing direct to OSB plywood should only be used when traditional framing is not available.
- Do not use aluminum fasteners, staples, or clipped head nails.

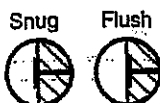
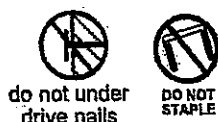


Figure A



Figure B



do not under drive nails



DO NOT STAPLE

PNEUMATIC FASTENING

James Hardie products can be hand nailed or fastened with a pneumatic tool. Pneumatic fastening is highly recommended. Set air pressure so that the fastener is driven snug with the surface of the siding. A flush mount attachment on the pneumatic tool is recommended. This will help control the depth the nail is driven. If setting the nail depth proves difficult, choose a setting that under drives the nail. (Drive under driven nails snug with a smooth faced hammer - Does not apply for installation to steel framing).

CAULKING:

For best results use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. Note: OSI Quad as well as some other caulking manufacturers do not allow tooling.

DO NOT caulk nail heads when using ColorPlus products, refer to the ColorPlus touch-up section

CUT EDGE TREATMENT

Caulk, paint or prime all field cut edges. James Hardie touch-up kits are required to touch-up ColorPlus products.

PAINTING

DO NOT use stain on James Hardie® products. James Hardie products must be painted within 180 days for primed product and 90 days for unprimed. 100% acrylic topcoats are recommended. Do not paint when wet. For application rates refer to paint manufacturers specifications. Back-rolling is recommended if the siding is sprayed.

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

- Care should be taken when handling and cutting James Hardie ColorPlus products. At the job-site use a soft cloth to gently wipe any residue or construction dust left on the product.
- Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch-up applicator. Touch-up should be used sparingly. If large areas require touch-up, replace the damaged area with new HardiePanel® siding with ColorPlus Technology.
- Laminate sheet must be removed immediately after installation of each course.
- Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus® product dealer.
- Treat all other non-factory cut edges using the ColorPlus Technology edge coaters, available from your ColorPlus product dealer.

Note: James Hardie does not warrant the usage of third party touch-up or paints used as touch-up on James Hardie ColorPlus products.

Problems with appearance or performance arising from use of third party touch-up paints or paints used as touch-up that are not James Hardie touch-up, will not be covered under the James Hardie ColorPlus Limited Finish Warranty.

PAINTING JAMES HARDIE® SIDING AND TRIM PRODUCTS WITH COLORPLUS® TECHNOLOGY

When repainting ColorPlus products, James Hardie recommends the following regarding surface preparation and topcoat application:

- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew
- Repriming is normally not necessary
- 100% acrylic topcoats are recommended
- DO NOT use stain or oil/alkyd base paints on James Hardie® products
- Apply finish coat in accordance with paint manufacturers written instructions regarding coverage, application methods, and application temperature

RECOGNITION: In accordance with ICC-ES Legacy Report NER-405, HardiePanel® vertical siding is recognized as a suitable alternate to that specified in: the BOCA National Building Code/1999, the 1997 Standard Building Code, the 1997 Uniform Building Code, the 1998 International One- and Two-Family Dwelling Code, the 2003 International Building Code, and the 2003 International Residential Code for One- and Two-Family Dwellings. HardiePanel vertical siding is also recognized for application in the following: City of Los Angeles Research Report No. 24862, State of Florida listing FL#889, Dade County, Florida NOA No. 02-0729.02, U.S. Dept. of HUD Materials Release 1263c, Texas Department of Insurance Product Evaluation EC-23, City of New York MEA 223-93-M, and California DSA PA-019. These documents should also be consulted for additional information concerning the suitability of this product for specific applications.

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Additional Installation Information,
Warranties, and Warnings are available at
www.jameshardie.com



Appendix A

Additional Information

RAINSCREENS

The Optional Use of Rain Screen Systems:

James Hardie will support the use of its exterior siding products with rainscreen systems, but does not take sole responsibility for the entire wall assembly or system. James Hardie expects the designer or builder using our components as part of the rainscreen system to:

- Adhere to all the installation requirements listed in the relevant product installation instructions.
- Provide adequate details for water management.
- Make the decision about the use of rainscreen.
- James Hardie products does not recommend "drainage mats" or drainage boards" to provide the necessary capillary break behind our siding. These products can compress during the installation process, impairing the drainage channels and further causing a "wavy" appearance in the plank or panel products.
- Understand the interaction between system components and how each of the components in the system interacts.
- Design of the building envelope accounting for both interior and exterior moisture control.

Installation Over Furring:

When installing James Hardie Siding products over furring the question arises what thickness of furring can be used as an alternate to normal metal or wood studs specified in the ESR 1844 & 2290 Report. General rule of thumb is, the specific ESR 1844 & 2290 fastener must be installed into a material that has the same or better holding power than that specified in the ESR 1844 & 2290 and with the same penetration as the ESR 1844 & 2290 fastener.

Note: The ESR 1844 & 2290 is the primary code compliance document James Hardie utilizes, but for other common applications and/or products, additional code compliance documentation and/or fastener specifications may exist. For special circumstances outside the scope of the ESR 1844 & 2290, please contact James Hardie's Technical Services.

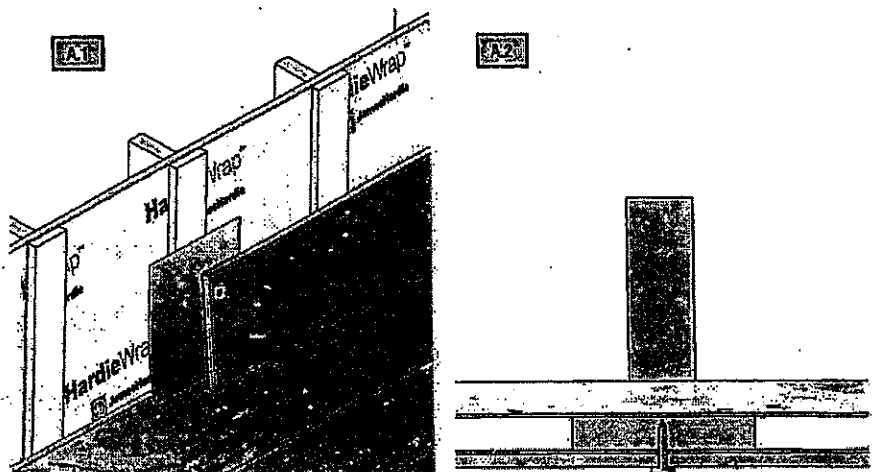
When reviewing the following details for attaching to wood furring or framing, an important consideration is that the fastener chosen must be fully encompassed by a wood substrate - the furring may count as all or part of the necessary penetration if it has been proven that the furring and/or wood substrate has the same or better holding power as a timber stud.

Design responsibility

In all cases it is the sole responsibility of the architect, envelope engineer or specifier to identify moisture related risks associated with any particular building design and to make any appropriate adjustments or modifications to the installation guidelines given by manufacturers. Wall construction and design must effectively manage moisture, considering both the interior and exterior environment of the building.

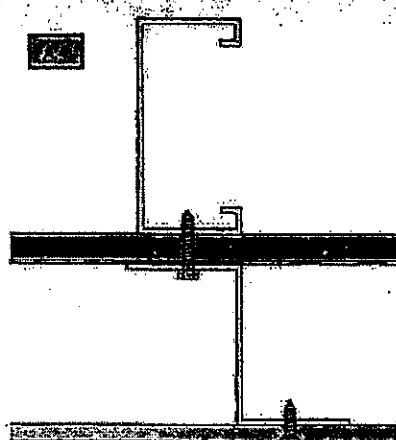
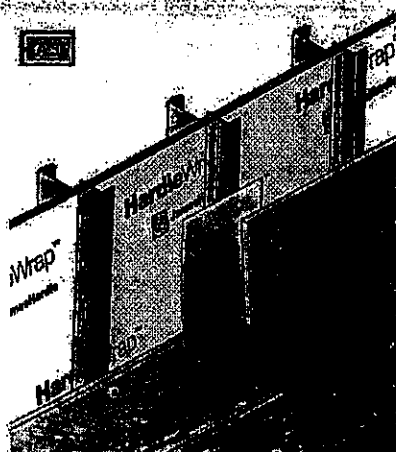
Attaching lap siding to wood furring:

When attaching lap siding products over wood furring, the typical fastener used is the 1-1/4" long No. 11 ga. roofing nail, blind nailed. This fastener is going to be the shortest fastener approved for fastening lap siding products, therefore the furring must be a minimum of 0.75" thick to achieve the same values as ESR 2290 Table 4 states for the 11 ga. 1-1/4" roofing nail given plank reveal, stud spacing, building height and exposure category.



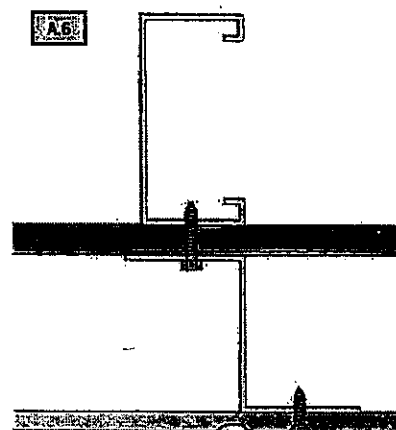
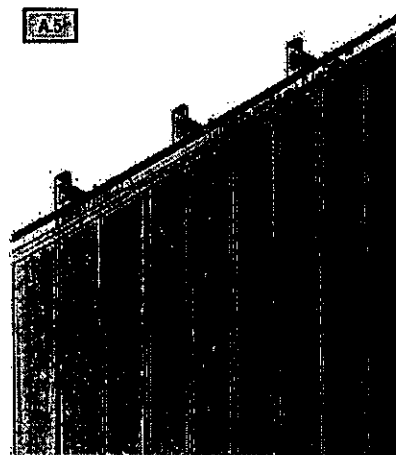
Attaching lap siding to steel furring:

When attaching lap siding products to metal furring, the steel furring must be a minimum 20 gauge steel. A fastener should be chosen out of the ESR 2290, Table 4, which is approved for attaching to steel framing. Two general rules that should be considered when choosing a fastener is that a nail (pin) must penetrate steel furring $\frac{1}{4}$ ", and screws must penetrate steel furring 3 full threads. Therefore, if the rules for steel fastening are followed – given plank reveal, stud spacing, building height, and exposure category – the values are the same as ESR 2290, Table 4 states for the chosen fastener.



Attaching panel siding to steel furring:

When attaching panel siding products to metal furring, the steel furring must be a minimum 20 gauge steel. A fastener should be chosen out of the ESR 1884, Table 4, which is approved for attaching to steel framing. Two general rules that should be considered when choosing a fastener is that a nail (pin) must penetrate steel furring $\frac{1}{4}$ ", and screws must penetrate steel furring 3 full threads. Therefore, if the rules for steel fastening are followed – given stud spacing, building height, and exposure category – the values are the same as ESR 1884, Table 4 states for the chosen fastener.



Attaching panel siding to wood furring:

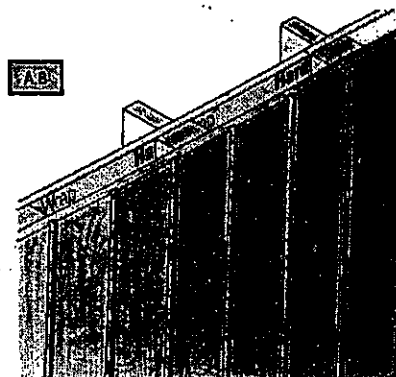
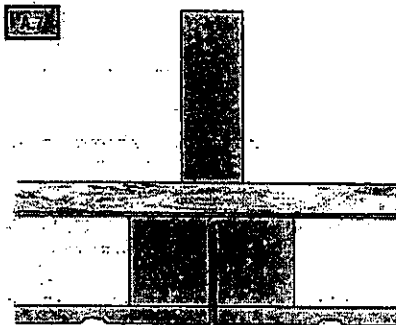
When attaching panel siding products over wood furring, the typical fastener used is the 6d common 2" long nail. This fastener is going to be the shortest fastener approved for fastening panel siding products into wood, therefore the furring must be a minimum of 1-11/16" thick to achieve the same values as ESR 1884, Table 4, given stud spacing, building height, and exposure category.

It is deemed an acceptable practice to not fasten along the top and bottom plates for the 5/16" HardiePanel configurations listed in the ESR 1884, Table 4 using the following fastener type:

- 0.091" shank X 0.225" HD X 1.5" long ring shank nail
- Min. No. 8 X 0.311 HD X 1" ribbed bugle head screw
- 0.10 X 0.25" HD X 1.5" long ET&F pin or equivalent
- 6d common 2" long nail

Conditions of use:

- This practice is acceptable for transverse load only.
- This practice is not acceptable for racking shear values or in-plane forces other than perpendicular/normal wind forces.
- All vertical joints shall occur over framing.
- All other James Hardie Installation Requirements shall be followed.



Product Information

Trimming Safety

Cutting and Fastening

Installation Requirements

General Fastener Requirements

Trimming and Maintenance

Weatherwrap Weather Barrier

HardiePlank HardiePanel Boards/Battens

HardieSoffit Panels

HardiePlank Lap Siding

HardieSiding HardieSiding

HardiePanel Vertical Siding

Appendix Glossary

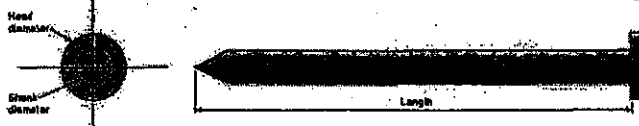
ESR 1844 & 2290 Report

Additional Information (continued)

ATTACHING JAMES HARDIE PRODUCTS TO INSULATED CONCRETE FORMS (ICF)

Considering the proprietary nature of Insulated Concrete Forms (ICF) and the number of ICF manufacturers currently selling product in the US and Canada, James Hardie Building Products cannot calculate or determine the proper fastener for each type of plastic or metal cross-tie flange being used in the field. James Hardie offers the following as a guide to determine the correct siding fastening to be used with the respective ICF system chosen for the project in question.

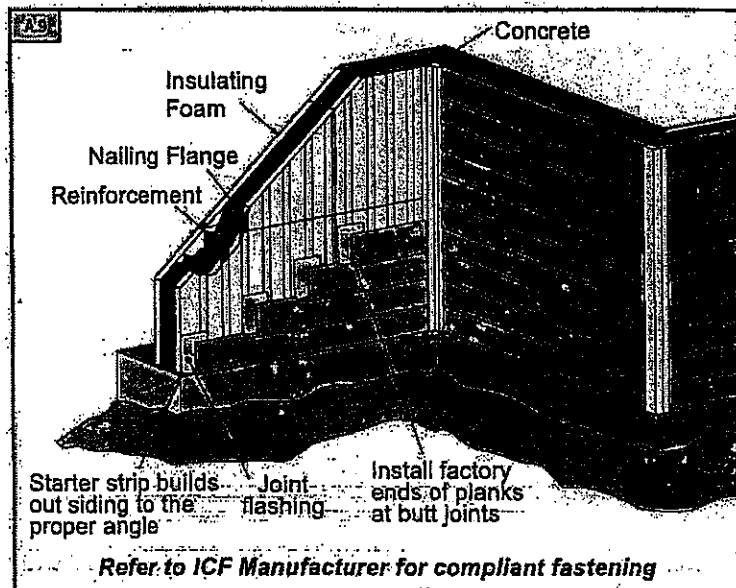
1. Determine the project's basic wind design, including basic wind speed, wind exposure category, and mean roof height.
2. Find the fastener and frame type within James Hardie's ICC-ES Product Evaluation Report (e.g. ESR 1844 & 2290) that will meet the project's basic wind design.
 - a. Take note of the head diameter, shank diameter, and fastener length for the fastener.



Note: Fastener bearing area is equal to the head area less the shank area.

- b. Take note of the frame type and frame spacing.
3. Go to the ICF system manufacturer and find a fastener that is similar in dimension to the fastener from step 2.1 above.
 - a. Basically, the bearing area under the ICF fastener head shall be the same as or greater than the bearing area under the James Hardie fastener head from step 2.
4. Since the James Hardie siding product has to be attached to a structural member, in this case the ICF cross-tie flange, the steps below shall be followed.
 - a. The onus is on the ICF system manufacturer to demonstrate that their ICF cross-tie flange holds fasteners, screws or nails, the same as wood or steel framing hold screws or nails.
 - b. ICF fastener allowable withdrawal load capacity (applicable factor of safety applied) may be found in an ICC-ES Product Evaluation for the given ICF manufacturer's products, OR
 - c. The ICF manufacturer may have testing that shows their fastener's allowable withdrawal load capacity (applicable factor of safety applied) from their cross-tie flange.
5. For the fastener from step 2, a registered design professional shall calculate the allowable withdrawal load (factor of safety applied) from the frame type noted in step 2.2.
6. A registered design professional shall then make an equivalency statement comparing the ICF fastener withdrawal (step 4.1.1 or step 4.1.2) versus the fastener withdrawal from step 5.
7. When the ICF cross-tie flange spacing differs from the James Hardie frame spacing in step 2.2, a registered design professional shall calculate the maximum siding fastener spacing into the cross-tie flange needed to resist the applicable basic wind speeds published in James Hardie's ESR 1844 & 2290 for the fastener and design from step 2.
8. When required by the code official and once in possession of the information gathered in the steps above it is the responsibility of the property owner, design professional, contractor, or installer to make his or her case to the Building Official¹.

¹ The Building Official reserves the right to approve alternate materials, design and methods of construction, 2006 International Building Code® Section 104.11, 2006 International Residential Code® Section R104.11, and 1997 Uniform Building Code™ Section 104.2.8.

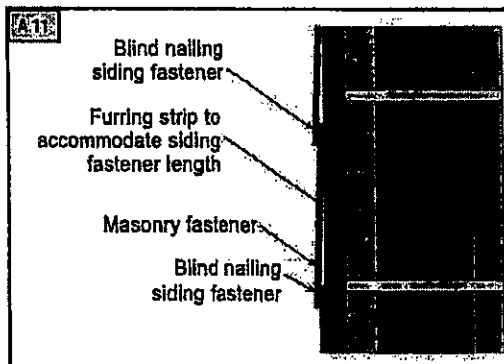
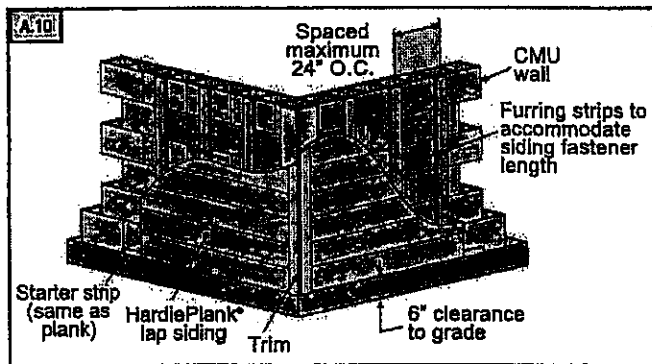


ATTACHING HARDIEPLANK® LAP SIDING AND HARDIETRIM® PRODUCTS TO CONCRETE MASONRY UNITS (CMU)

The application of HardiePlank® Lap Siding and HardieTrim® boards to masonry construction complying with local building codes using Concrete Masonry Units (CMU) complying to ASTM C 90 can be achieved by using one of the following two methods of attachment. All other product specific installation requirements which are not outlined below must be followed.

Method 1: Attachment Over Furring

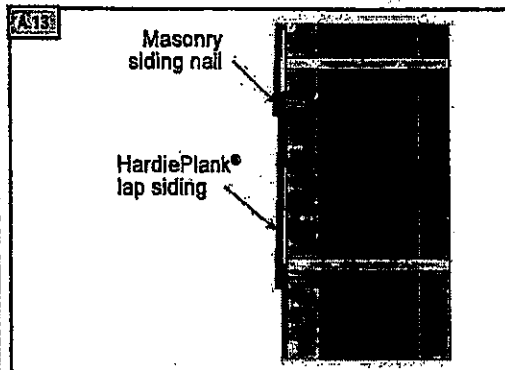
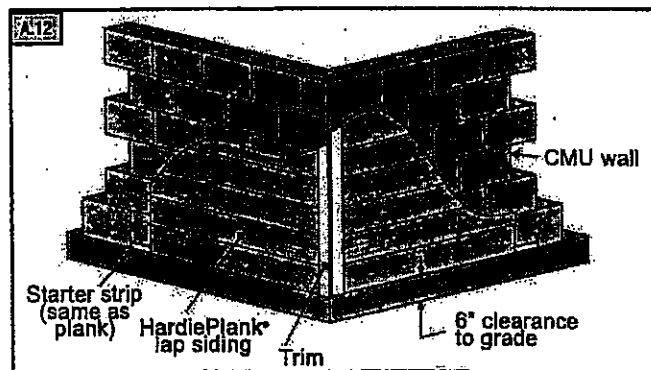
Attach over furring with adequate thickness to allow attachment with approved fastening methods according to local building codes and code compliance documentation. Furring must be attached to ensure it can transfer the wind loads and other necessary forces back to the structure. The mechanical connection of the furring to the structure is the responsibility of the Licensed Design Professional. James Hardie Building Products has no comment on the load carrying capacity of the furring to framing connections.



Method 2: Attachment Directly to CMU

Attach directly to masonry with approved fastening method according to local building codes and code compliance documentation.

Refer to and follow local building codes for water resistive barrier requirements



Attachment of HardieTrim® boards

HardieTrim boards can be fastened using hardened finish nails designed for masonry construction. For more information refer to the HardieTrim section of this guide.

Additional Information (continued)

ICC-IECC & IECC/2003-ALLOWABLE FASTENER SPACING (IN)

HardiePlank® Lap Siding fastened to ASTM C 90 Concrete Wall

Basic Wind Speed	Building Height (feet)	<6½-inch wide			7¼- & 7½-inch wide			8- & 8¼-inch wide			9¼- & 9½-inch wide		
		Exposure			Exposure			Exposure			Exposure		
		B	C	D	B	C	D	B	C	D	B	C	D
100 mph	0-15	24	24	24	24	24	24	24	24	21	24	23	19
	20	24	24	24	24	24	23	24	24	20	24	21	18
	30	24	24	24	24	24	21	24	22	19	24	20	17
	40	24	24	23	24	24	20	24	21	18	24	19	16
	50	24	24	22	24	22	19	24	20	17	24	18	15
	60	24	24	22	24	22	19	24	19	17	23	17	15
110 mph	0-15	24	24	22	24	24	19	24	21	17	23	19	15
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	30	24	24	20	24	20	17	24	18	15	23	16	14
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120 mph	0-15	24	23	19	24	20	17	21	18	15	19	16	13
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130 mph	0-15	24	20	16	21	17	14	18	15	12	16	14	11
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	50	21	15	13	18	13	11	16	12	10	14	11	9
	60	20	15	13	17	13	11	15	11	10	13	10	9
140 mph	0-15	21	17	14	18	15	12	16	13	11	14	12	10
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	50	18	13	11	15	11	10	14	10	9	12	9	8
	60	17	13	11	15	11	10	13	10	9	12	9	8
150 mph	0-15	18	15	12	16	13	11	14	11	9	12	10	8
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	30	18	13	11	16	11	9	14	10	8	12	9	7
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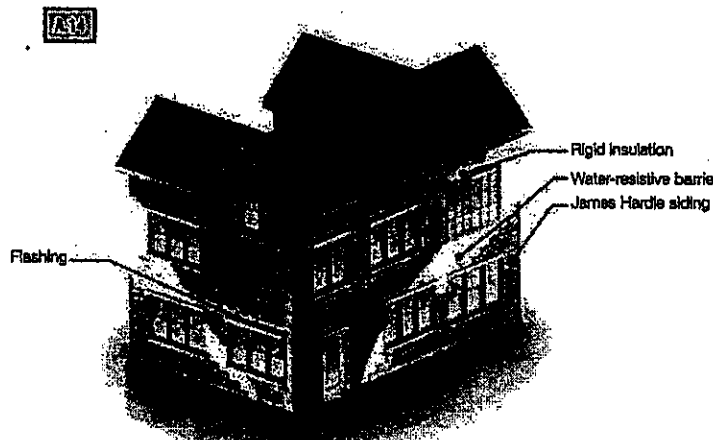
Notes to Table:

- Fasteners shall be ET&F Fastening Systems, Inc. ET&F block Nail (ET & F No. ASM-144-125, head dia. = 0.30 in., shank dia. = 0.14 in., length = 1.25-in. long) or Max System block Nail (CP-C 832 W7-ICC, head dia. = 0.30 in., shank dia. = 0.15 in., length = 1.3 in.).
- Maximum basic wind speed shall be 150 mph.
- Interpolation to address building height and other plank widths is permitted.
- The lap conceals the fasteners of the previous course (Blind Nailed).
- 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 0.44 m/s

INSTALLING OVER RIGID FOAM INSULATION UP TO 1" THICK

James Hardie does support the use of its exterior siding products installed over rigid foam insulation, but does not take responsibility for the entire wall assembly or system. James Hardie expects the designer or builder using our components as part of the insulated wall assembly to:

- Adhere to all the installation requirements listed in the relevant product installation instructions.
- Provide adequate details for water management.
- Make the decision about the use and type of rigid foam insulation.
- Understand the interaction between system components and how each of the components in the system interacts.
- Design the building envelope to account for both interior and exterior moisture control.

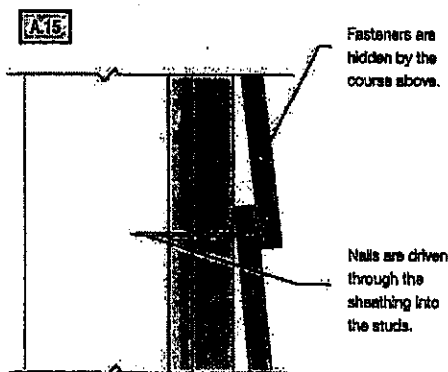


General requirements and installation guidelines:

- All James Hardie® product specific installation requirements must be followed.
- All national, state, and local building code requirements must be followed. Where they are more stringent than the James Hardie installation requirements, state and local requirements will take precedence.
- James Hardie siding and trim products can be installed over solid-foam insulation board up to 1-in. thick. Caution should be taken as irregularities and unevenness in framing, sheathing, foam and other wall assembly components, including under driven nails, can telegraph through to the finished siding and trim. These irregularities should be corrected before the siding is installed.
- When reviewing the following details for attaching over foam, an important consideration is that the fastener chosen must be adequately encompassed by a wood substrate. The foam will not count as part of the necessary penetration, there for the length of the chosen fastener must be extended by the thickness of the foam.

Fastener Selection:

- When attaching lap siding products over foam 1-1/2" or less, the length of the chosen fastener from table below, must be extended in length by the thickness of the foam. For information on fastening Hardie products greater than 1-1/2" see Tech Bulletin 19 at www.JamesHardie.com.

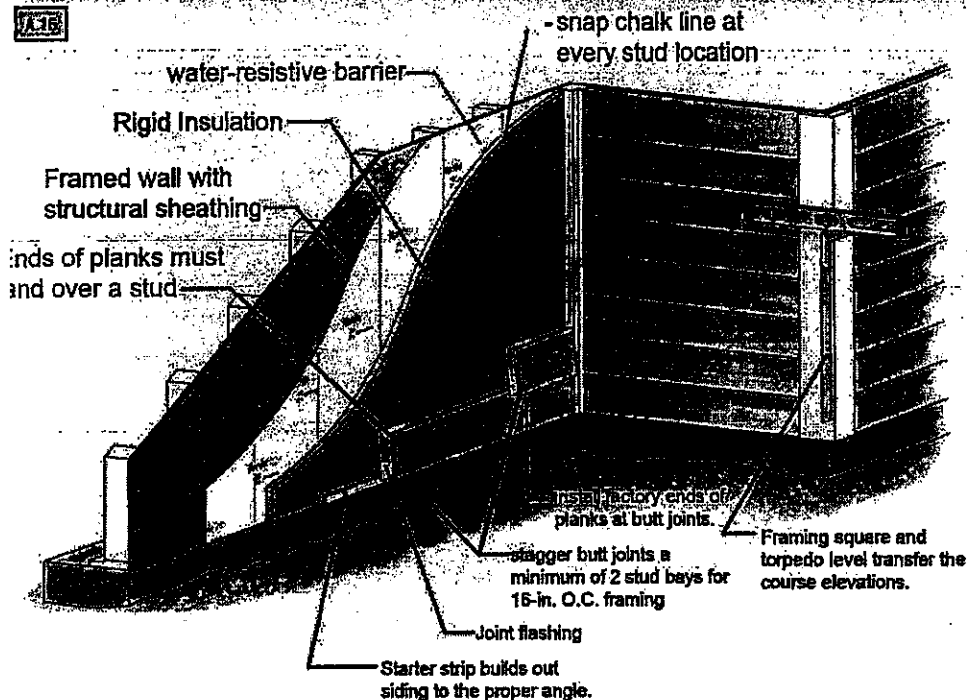


Normal Fastener	Fastener for an additional 1/2" of Foam
6d common 2" long	8d common 2½" long
11 ga. 1¼" long roofing nail	11 ga. 1¾" long roofing nail
8-18 x 1½" x .323" HD ribbed bugle head screw	8-18 x 2½" x .323" HD ribbed bugle head screw

Refer to the ESR 1844 & 2290 or other code compliant documentation for proper fastener selection based on specific product, stud spacing, building height, and exposure category.

Additional Information (continued)

A-16



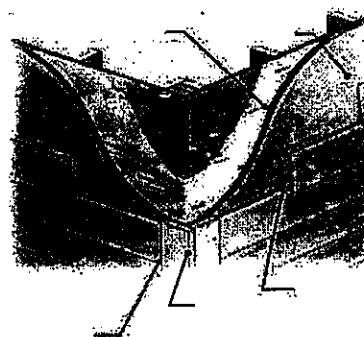
Note: When attaching lap siding products over foam the length of the chosen fastener must be extended by the thickness of the foam to achieve the same required holding power.

TIP: With some types of foam it is possible to use the rigid foam as the water resistant barrier by taping and sealing all of the joints. Refer to specific manufacturers installation requirements when considering this type of application.

WEATHER BARRIER & RIGID FOAM

- When using a weather resistive barrier (WRB) in conjunction with rigid foam Insulation, the WRB can be installed underneath the foam as shown, or over the top if more convenient
- Regardless of where the WRB is placed all flashings must be incorporated into the WRB and drainage plane.
- Some rigid foam insulation products are manufactured with tongue & groove or shiplap joints and can be used as the WRB when properly installed and sealed. When using rigid foam insulation as the WRB refer to manufacturers installation instructions.

A-17



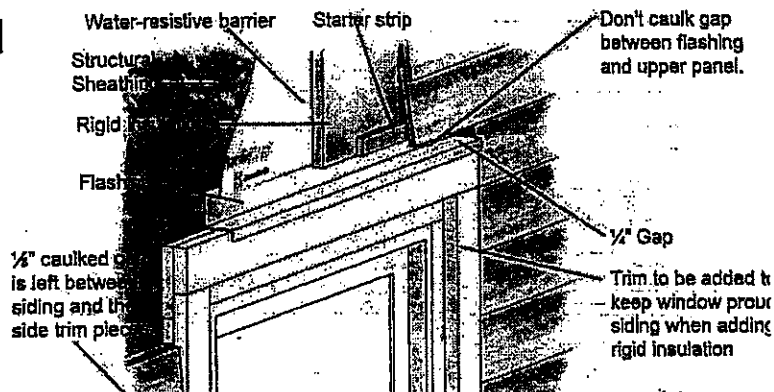
Trim

Depending upon the reveal around windows, doors, & penetrations, thickness of foam and the type and thickness of trim used there will be different techniques to install the siding and trim to ensure the foam is completely concealed.

Flashings

The Z flashing above all horizontal trim must be incorporated into the WRB regardless of WRB position. If the foam is being used per manufacturers instructions as the WRB, all flashings must be incorporated into the drainage plane such that it allows moisture to drain down and out.

A-18

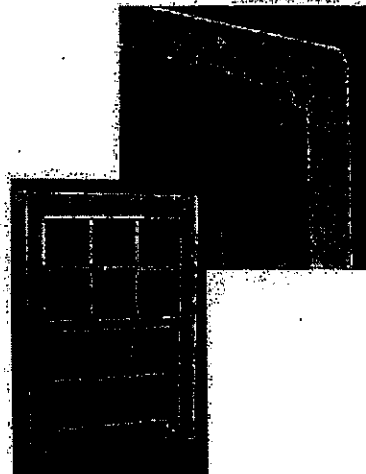


Note: It is recommended to layout the rigid foam insulation such that vertical joints do not occur at the corners of window and door openings or overs if possible.

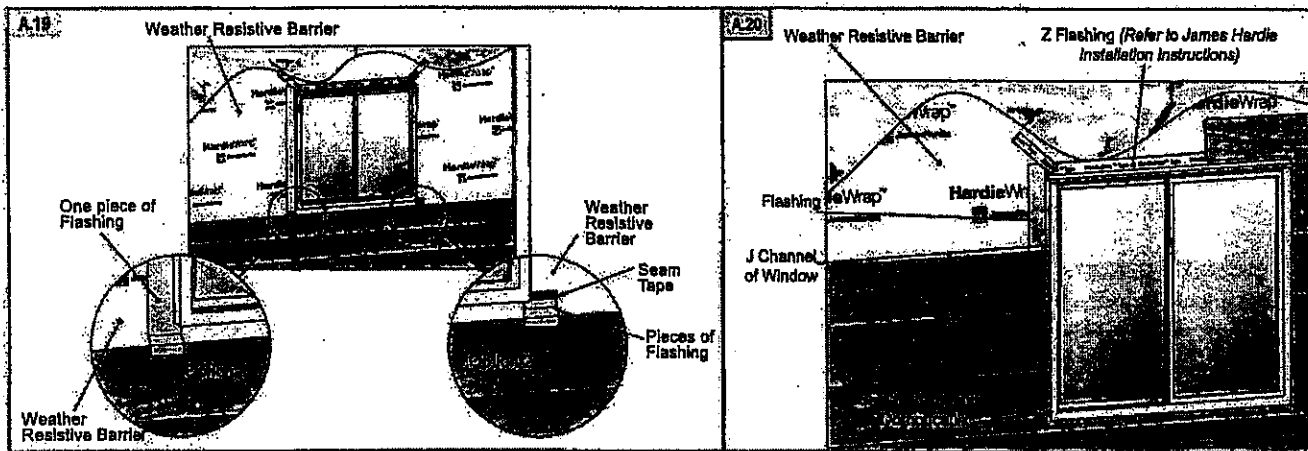
INSTALLING HARDIEPLANK® LAP SIDING AROUND WINDOWS WITH AN INTEGRATED J-CHANNEL

When installing fiber cement around a window with a "J" channel there are a few guidelines which should be followed to control water flow:

1. All windows must be installed per manufacturers installation instructions and must incorporate all necessary flashings.
2. At the bottom sides of the window, a flashing must be installed that will redirect any water that runs down the inside of the "J" channel out and away so that it does not run down the wall assembly and behind the plank below the window.
 - a. This can be done by inserting a flashing that runs the entire length of the window (option 1) or by cutting the weather resistive barrier towards the bottom of the window and inserting a smaller flashing and taping with seam tape to reseal the weather resistive barrier (option 2).
 - b. This flashing would then be lapped over the last plank at the bottom of the window, similar to a joint flashing, to direct water down and out to the front of the cladding.
3. A "z" flashing must be installed and integrated into the weather resistive barrier at the top of the window. The "z" flashing will allow water to be drained away from the window and wall, opposed to being captured in the "J" at the top of the window. (Refer to James Hardie Installation Instructions for further "z" flashing details).
4. Seal all field cut non factory ends with an exterior grade paint, primer, or sealer.
 - a. Insert ends of plank into the "J" channel of the window.
 - b. Do not try to squeeze caulk into the "J" channel.
 - c. Plank integrated into "J" channel must be primed, painted or caulked.



Typical "J" Channel Window



JOINT FLASHING WITH HARDIEPLANK® LAP SIDING

Joint Flashing at field butt joints

This Technical Bulletin is an explanation supporting the announcement made by James Hardie on September 8th, 2008 withdrawing its recommendation on the use of caulk at field butt joints for HardiePlank® lap siding. Below is an excerpt from that announcement:

HardiePlank Lap Siding (Primed & ColorPlus Technology) – Caulk at Field Butt Joints

Previously, there were two options for treating field butt joints for Primed HardiePlank lap siding (i.e. the use of caulk with a gap or the use of a joint flashing behind the joint). Effective immediately, James Hardie does not recommend the use of caulk at field butt joints for HardiePlank lap siding Primed or with ColorPlus® Technology. The use of a joint flashing behind field butt joints is the required joint treatment method for HardiePlank lap siding with ColorPlus technology and the preferred method for primed HardiePlank lap siding. The use of caulk at field butt joints is a maintenance item for the homeowner; aesthetically compromises the finish look and is recommended against by some caulk manufacturers. All HardiePlank lap siding must be installed in accordance with our installation details as outlined in the relevant installation instructions.

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Fastener Requirements

Maintenance

Weather Barrier, Boards/Barriers

Paints

Lap Siding

Siding

HardiePlank® Vertical Siding

Glossary

ENR 1994 & 2280 Report

Additional Information (continued)

Summary of James Hardie's position:

- HardiePlank lap siding with ColorPlus technology - Joint flashing behind field butt joints is required, the use of caulk will not be warranted.
- HardiePlank lap siding Primed - Recommend the use of joint flashing, but the use of caulk will not void the warranty.

The reasons for this announcement are:

1. The use of joint flashing behind field butt joints is an approved joint treatment method as described in the 2006 International Building Code and is recognized by James Hardie and experts across the building industry to be a superior method.

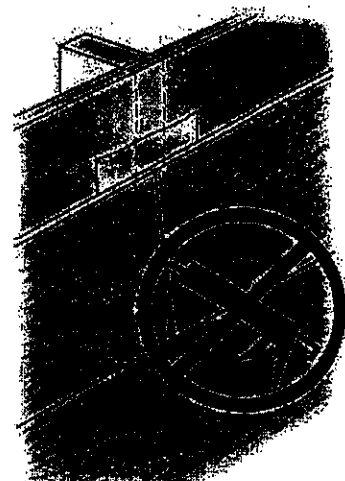
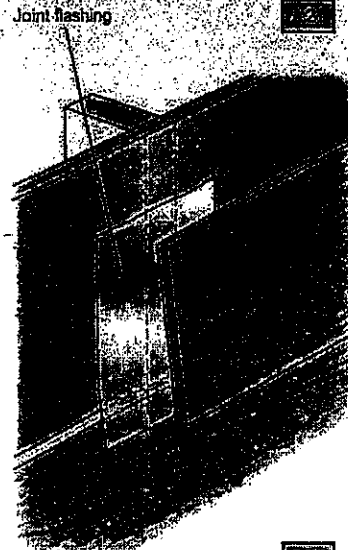
"1405.17.2 Horizontal lap siding. Lap siding shall be lapped a minimum of 1 1/4 inches (32 mm) and shall have the ends sealed with caulking, covered with an Hsection joint cover or located over a strip of flashing."

Experts across the industry recognize flashings as an effective and responsible method for draining a wall system:

"The fundamental principle of water management is to shed water by layering materials in such a way that water is directed downwards and outwards out of the building or away from the building. The key to this fundamental principle is drainage. The most elegant expression of this concept is a flashing. Flashings are the most under-rated building enclosure component and arguably the most important."

EEBA (Energy & Environmental Building Association™) Water Management Guide By Joseph W. Lstriburek, Ph.D., P.Eng. June 2004.

2. Reduced maintenance required by the home owner – It is recognized by James Hardie, several caulking manufacturers, experts across the industry, and experienced home owners that when caulking is used at field butt joints, maintenance will be required. Depending on the specific product and the application, caulked field butt joints will need to be maintained to guarantee continued performance over the life of the building. In addition, several sealant/caulking manufacturers recommend against using their products at butt joints in fiber cement siding for many of the reasons discussed here.
3. Improved appearance – When installed properly, flashing at a field butt joint can create a better looking joint. James Hardie recommends butting field joints together in moderate contact which achieves a more continuous looking joint. When utilizing a caulked butt joint, a gap specified by the caulk manufacturer must be left at the joint. Over time as the caulk ages, this joint can become pronounced on the wall and stand out.



Do not use caulk on HardiePlank® lap siding with ColorPlus® technology

JAMES HARDIE REQUIREMENTS FOR ALTERNATE FASTENERS AND METHODS OF FASTENING

The fastening requirements for each product are stated in one or more of the following technical documents and in some cases fastener products may be referenced. Below are the steps that can be used to demonstrate an alternate fastener's equivalency to the James Hardie published fastening requirements.

1. It is the responsibility of either the property owner, design professional, contractor, or installer to consult:
 - a. The fastener Manufacturer for a Product Listing Specification or Code Compliance report that covers the installation method in question, or;
 - b. A licensed Architect or Professional Engineer to make an equivalency statement linking the alternate fastener (or fastening method) to the fastening requirements published within the relevant James Hardie technical document;
2. Once in possession of the information gathered in step one it is the responsibility of the property owner, design professional, contractor, or installer to make his or her case to the Building Official¹

¹ The Building Official reserves the right to approve alternate materials, design and methods of construction, 2006 International Building Code* Section 104.11, 2006 International Residential Code Section R104.11, and 1997 Uniform Building Code Section 104.2.8.

All national, state, and local building code requirements must be followed and where they are more stringent than the James Hardie installation requirements, state and local requirements will take precedence.

Appendix B

Estimating

Siding

All houses can be broken down to triangles, rectangles, and squares. Using these simple shapes it is very easy to estimate the amount of siding required:

1. Break down the portions of the house to be sided into the simple shapes (squares, rectangles, triangles) Figures 12.1 - 12.4.
2. Determine the height and width of each shape.
3. Multiply height x width to determine square footage. For triangles divide the total by 2.
4. Add all of the square footage numbers together.
5. Subtract large items such as garage doors, large doors, large windows, and banks of windows from total.
Do not remove small windows, doors, vents, or other small areas not being sided.
6. Total all numbers. This gives you the total covered area.
7. Use the coverage charts located in this section to determine the number needed.
8. Add a minimum of 5% for waste. If there are multiple (3 or more) gables, chases, bump outs, or dormers add 10%.*

* Material for starter strip is included in the calculation for waste.

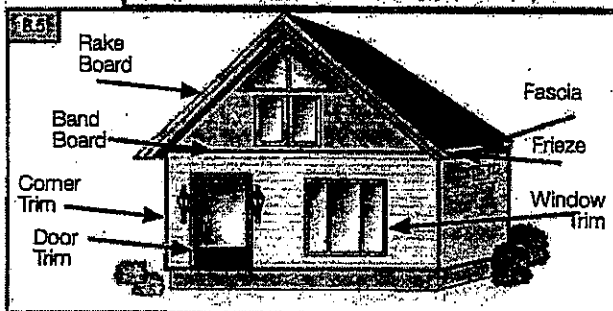
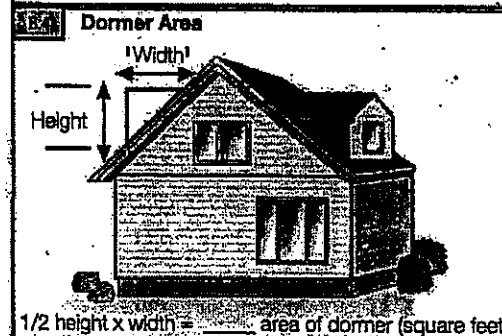
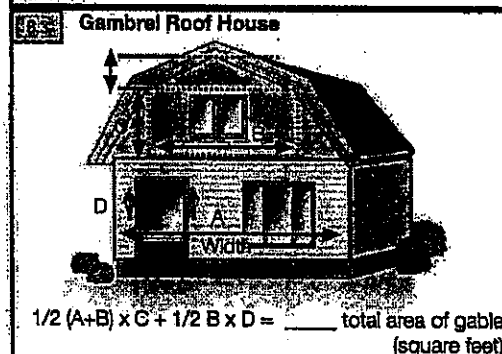
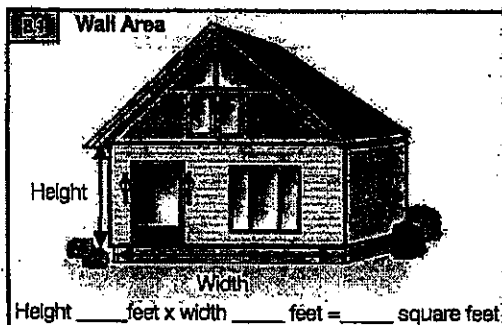
Trim

Number of HardieTrim® Boards:

Trim is applied to corners and around doors and windows. Trim is also used for fascia-board, rake board, band board, frieze board and other details.

1. Determine which areas are to be trimmed.
2. Measure all openings to be trimmed including doors, windows, vent openings, corners (inside and outside), and other areas.
3. Measure for fascia, rakes, and frieze boards.
4. Add the lengths for corners, fascia, rakes, and frieze and add 5% for waste.
5. Add the lengths for window and door trim and add 10% for waste.
6. Add the total from lines 4 and 5 to determine the amount of trim needed.

Disclaimer: The estimation methods in this section are meant as a guide. James Hardie does not assume responsibility for over or under ordering of product.



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Trim/Decorative Panels

HardieTrim® Lap Siding

HardieSingle® Siding

HardieBoard® Vertical Siding

HardieBoard® Glossy

ESR 1844 & 2250 Report

Estimating (continued)

HardiePlank® Lap Siding Coverage Chart* (number of planks)

Coverage Area (square feet)	Plank Width (in.)					
	Width (in.) Exposure (in.)	5.25 4	6.25 5	7.25 6	8.25 7	9.25 8
100	25	20	17	14	13	9
200	50	40	33	29	25	19
300	75	60	50	43	38	28
400	100	80	67	57	50	37
500	125	100	83	71	63	47
600	150	120	100	86	75	56
700	175	140	117	100	88	65
800	200	160	133	114	100	74
900	225	180	150	129	113	84
1000	250	200	167	143	125	93
1100	275	220	183	157	138	102
1200	300	240	200	171	150	112
1300	325	260	217	186	163	121
1400	350	280	233	200	175	130
1500	375	300	250	214	188	140
1600	400	320	267	229	200	149
1700	425	340	283	243	213	158
1800	450	360	300	257	225	167
1900	475	380	317	271	238	177
2000	500	400	333	286	250	186
2100	525	420	350	300	263	195
2200	550	440	367	314	275	205
2300	575	460	383	329	288	214
2400	600	480	400	343	300	223
2500	625	500	417	357	313	233
2600	650	520	433	371	325	242
2700	675	540	450	386	338	251
2800	700	560	467	400	350	260
2900	725	580	483	414	363	270
3000	750	600	500	429	375	279

Nail Coverage Chart** (number of nails)

Coverage Area (square feet)	Plank Width (in.)					
	Width (in.) Exposure (in.)	5.25 4	6.25 5	7.25 6	8.25 7	9.25 8
100	250	200	166	143	125	93
500	1250	1000	830	715	625	465
1000	2500	2000	1660	1430	1250	930

Disclaimer

The estimation methods in this section are meant as a guide. James Hardie does not assume responsibility for over or under ordering of product.

* Coverage chart does not include waste. ** Number of nails given are for building framed 16" o.c.

HardiePanel® Vertical Siding Coverage Chart* (number of panels)

Coverage Area (square feet)	Panel Size (ft.)		
	4'x8' (32SF)	4'x9' (36SF)	5'x10' (40SF)
100	4	3	3
200	7	6	5
300	10	9	8
400	13	12	10
500	16	14	13
600	19	15	15
700	22	20	18
800	25	23	20
900	29	25	23
1000	32	28	25
1100	35	31	28
1200	38	34	30
1300	41	37	33
1400	44	39	35
1500	47	42	38
1600	50	45	40
1700	54	48	43
1800	57	50	45
1900	60	53	48
2000	63	56	50
2100	66	59	53
2200	69	62	55
2300	72	64	58
2400	75	67	60
2500	79	70	63
2600	82	73	65
2700	85	75	68
2800	88	78	70
2900	91	81	73
3000	94	84	75

Disclaimer

The estimation methods in this section are meant as a guide. James Hardie does not assume responsibility for over or under ordering of product. Chart reflects footages rounded up to next full panel.

* Coverage chart does not include waste.

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HardiePanel®
Vertical Siding

HardiePanel®
Vertical Siding

HardiePanel®
Vertical Siding

HardiePanel®
Vertical Siding

HardiePanel®
Vertical Siding

HardiePanel®
Vertical Siding

HardiePanel®
Vertical Siding

Estimating (continued)

HardieShingle® Siding

HardieShingle Staggered Edge Notched Panel Coverage

Panels are available in 48" lengths. Pieces needed for one square (100 sq. ft.) of product coverage = approximately 50, (depending on ratio of length to height of wall) based on maximum exposure of 6".

HardieShingle Straight Edge Notched Panels Coverage

Panels are available in 48" lengths. Pieces needed for one square (100 sq. ft.) of product coverage = approximately 43, (depending on ratio of length to height of wall) based on maximum exposure of 7".

HardieShingle Half-round Notched Panel Coverage

Panels are available in 48" lengths. Pieces needed for one square (100 sq. ft.) of product coverage = approximately 43, based on a maximum exposure of 7".

HardieShingle Individual Shingle Coverage*

Bundles needed for one square (100 sq. ft.) of product coverage:

7" Exposure			5" Exposure		
Shingle Width	# of Bundles	Pieces per Bundle	Shingle Width	# of Bundles	Pieces per Bundle
4.2"	3	15	3.5"	3	20
5.5"	6	15	4.5"	6	20
6.75"	3	15	5.5"	6	20
7.25"	6	15	7"	6	20
10"	3	15	8.75"	3	20



* Individual shingles are not available in all areas. Check you local dealer for availability.

HardieSoffit® Panels

- For 12" and 16" width soffits: Divide total lineal footage of soffit and/or eaves by 12.
- For 24" width soffits: Divide total lineal footage of soffit and/or eaves by 8.

Appendix C

Glossary of Building Terms

Back Roll - To roll over a freshly spray painted surface with a roller.

Back Sealing/Priming - Back sealing and back priming are used interchangeably in the field and refer to the act of applying a sealer or primer to the back of a cladding material to minimize the potential for water absorption through the backside of the product.

Band Board - A decorative piece of trim placed between two floors along the rim joist.

Bevel Cut - See weather cut

Blind Nailing - The action of placing a fastener through the top edge of lap siding that will be covered by the next course of siding.

Bump Out - A built out protrusion from a building.

Butt Joint - To place materials end-to-end or end-to-edge without overlapping. Also known as a field joint.

Caulk - A compound used to fill cracks, gaps, seams and joints.

Chase - A framed enclosed space around a flue pipe or a channel in a wall, or through a ceiling for something to lie in or pass through.

Course - A row of planks, one plank wide running the length of the house.

Dormer - A gabled extension built out from a sloping roof to accommodate a vertical window.

Drip Cap - A molding or metal flashing placed on the exterior topside of a door or window frame to cause water to drip beyond the outside of the frame.

Drip Edge - A metal or vinyl flashing placed on the top edge of the roof sheathing which directs water away from the structure to prevent seepage under or behind the exterior trim or fascia.

Eave - The lower part of the roof that projects over the exterior wall assembly.

Electro-Galvanized - Covered with zinc using a plating process.

Face - The side of the siding, trim, or soffit showing once the product has been installed.

Face Nailing - The action of placing a fastener through the overlap of a plank. The fastener will be visible.

Fascia Board - A trim board attached to the ends of the rafters.

Finished Grade - The level at which the ground surface meets the foundation of a building.

Flashing - A thin flat metal positioned under/behind roofing, windows, doors, corner posts, etc. to keep draining water from penetrating the house.

Frieze Board - A horizontal member connecting the top of the siding with the soffit

Furring/Furring Strip - Furring strips are long, thin strips of wood, metal or Fiber Cement used to make backing surfaces to support the finished surfaces.

Gable - The end of a wall that is created when a roof line is pitched and slopes in two directions.

Galvanized - Covered with zinc. Either hot-dipped or electro-plated.

Grade - The height of the ground on which something stands.

Horizontal - Parallel to the horizon; on a level.



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Requirements

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Maintenance

Trimming and
Weather Barrier

Roofing and
Siding

Windows and
Doors

Roofing and
Siding

Roofing and
Siding

Roofing and
Siding

Roofing and
Siding

Roofing and
Siding

Joint Flashing - An additional weather resistive barrier placed behind a butt joint.

Lap - To over lap a course of siding with another course of siding.

Level - A position of measurement truly and exactly horizontal, 90° from a plumb surface.

Light Block - Decorative trim item placed under light fixtures and other exterior fixtures.

Miter - To make a diagonal cut, beveled to a specific angle 45° and 22 1/2 ° are common.

Mud Sill - A building member resting and normally attached to the foundation of a building running around the perimeter of the building. Also known as sill plate.

OSB - Oriented Strand Board. A common type of structural panel sheathing.

PEL - Personal Permissible Exposure Limit. The maximum daily exposure level to respirable silica. OSHA's Personal Exposure Limit is 0.1 mg/m³.

Plumb - A position of measurement truly and exactly vertical, 90° from a level surface.

Plunge Cut - The act of driving a saw into the body of a material.

Rafter Tail - The end of a rafter extending past the wall assembly.

Rain Screen Wall - Consists of an exterior cladding, a cavity behind the cladding typically created through the use of furring strips for the purpose of drainage and venting to the outside; an inner wall plane incorporating a weather resistive barrier.

Rake Board - Decorative trim placed at an angle.

Rigid Sheathing - Plywood or OSB.

Rim Joist - The board that the rest of the joists are nailed to. It runs the entire perimeter of the house.

Rip Cut - Cut along the grain, usually lengthwise on a board.

Scroll Work - Decorative trim work.

Sheathing - Sheets of plywood, gypsum board, or other material nailed to the outside face of studs as a base for exterior siding.

Shim - A building material, usually wood, used to even a surface.

Silica - Mineral that is composed of silicon dioxide, SiO₂.

Speed Square - Triangle shaped measuring device used in a variety of framing and siding applications.

Stage - To deliver, stack, or store material in a specific location.

Starter Strip - An accessory used under the first course of siding to provide a consistent plank angle.

Sub-Fascia - Framing member attached to the rafter tails used to support the fascia or used to pad out the fascia.

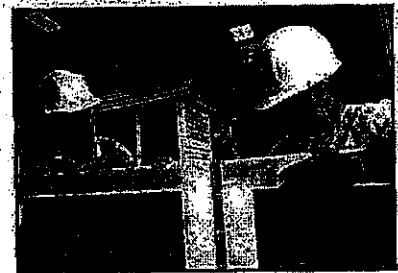
T-Shed - A shed with a single vertical wall and a roof that hangs off that wall on either side. The cross section of the shed is shaped like a 'T'.

Vertical - Being or situated at right angles to the horizon; upright.

Weather Cut - 15° to 45° cut used to join two boards.

Weather-Resistive Barrier - A building paper that protects building materials from exterior water penetration.

Z-Flashing - A piece of flashing bent into the shape of a "z". Used over window trim, band boards, panel intersections, and other vertical surfaces.

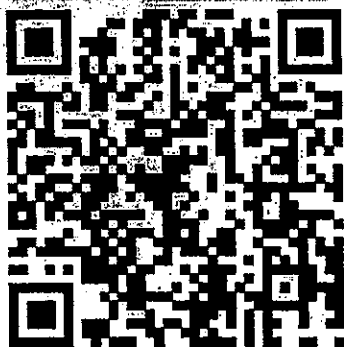


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**HARDIEPLANK® LAP SIDING &
HARDIESHINGLE® SIDING**



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**HARDIEWRAP®
WEATHER BARRIER**



[http://www.icc-es.org/reports/
pdf_files/ICC_ES/ESR-2658.pdf](http://www.icc-es.org/reports/pdf_files/ICC_ES/ESR-2658.pdf)

Appendix D

Code References

Note: All building work must be in accordance with the applicable local building codes. The following is a list of the key code clauses. It is provided as a reference tool and not intended to be a substitute for proper design of approved construction. ASTM E1825 also provides guidance on the evaluation of materials, products and systems used in exterior wall construction.

Site and Foundations

2006 International Building Code
Chapter 18 Foundations and Retaining Walls
1803.3 Site grading

2003 International Residential Code for One- and Two- Family Dwellings
Chapter 4 Foundations
R401.3 Drainage
1997 Uniform Building Code
Chapter 18 Foundations and Retaining Walls
1804.7 Drainage

The BOCA National Building Code / 1999
Chapter 18 Foundations and Retaining Walls
1813.7 Site grading

SBCCI Standard Building Code 1997
Chapter 18 Foundations and Retaining Walls
Section 1804 Footings and Foundations; 1804.1.7

1998 International One- and Two- Family Dwelling Code 1998
Chapter 4 Foundations
R401.3 Drainage

Ground Clearances

2006 International Building Code
Chapter 18 Foundations and Retaining Walls
Chapter 23 Wood
2304.11.2.2 Framing

2003 International Residential Code for One- and Two- Family Dwellings
Chapter 3 Building Planning
Chapter 4 Foundations
R404.1.6 Height above finished grade

1997 Uniform Building Code
Chapter 18 Foundations and Retaining Walls
1806.1 General
Chapter 23 Wood
2305.8 Wood and Earth Separation

The BOCA National Building Code / 1999
Chapter 18 Foundations and Retaining Walls
Chapter 23 Wood
2311.4.2 Framing

SBCCI Standard Building Code 1997
Chapter 18 Foundations and Retaining Walls
Chapter 23 Wood
Section 2304 Protection against decay and termites; 2304.2.5

2003 International One- and Two- Family Dwelling Code 1998
Chapter 4 Foundations
R404.1.6 Height above finished grade

Moisture Management

2006 International Building Code
Chapter 14 Exterior Walls
1404.1 General
1404.2 Weather-resistive barrier
1405.1 General
1405.2 Weather Protection
1405.3 Flashing

2003 International Residential Code for One- and Two- Family Dwellings
Chapter 7 Wall Covering
R703.2 Weather-resistant sheathing paper
R703.8 Flashing

1997 Uniform Building Code
Chapter 14 Exterior Wall Coverings
1402.1 Weather-resistive barriers
1402.2 Flashing and Counterflashing
UBC Standard 14-1 Kraft Waterproof Building Paper

The BOCA National Building Code / 1999
Chapter 14 Exterior Wall Coverings
1404.3 Weather protection
1406.3.6 Water-resistive barrier
1406.3.10 Flashings

SBCCI Standard Building Code 1997
Chapter 14 Exterior Wall Covering
Section 1403 Veneered Walls; 1403.1.3; 1403.1.4

1998 International One- and Two- Family Dwelling Code 1998
Chapter 7 Wall Covering
R703.2 Weather-resistant sheathing paper
R703.8 Flashing

Wall Construction

2006 International Building Code
Chapter 22 Steel
Chapter 23 Wood

2003 International Residential Code for One- and Two- Family Dwellings
Chapter 6 Wall Construction
R602.10 Wall bracing

1997 Uniform Building Code
Chapter 22 Steel
Chapter 23 Wood
2320.11.3 Bracing

The BOCA National Building Code / 1999
Chapter 22 Steel
Chapter 23 Wood
2305.7 Wind bracing
2305.8 Seismic bracing
2305.9 Braced wall

SBCCI Standard Building Code 1997
Chapter 23 Wood
2308.2 Bracing of exterior stud walls

1998 International One- and Two- Family Dwelling Code 1998
Chapter 6 Wall Construction
R602.10 Wall bracing

Fastening

2006 International Building Code
Chapter 14 Exterior Walls
1405.15 Fiber cement siding
1406.2.2 Architectural trim

2003 International Residential Code for One- and Two- Family Dwellings
Chapter 7 Wall Covering
R703.1 General

1997 Uniform Building Code
Chapter 6 Types of Construction
Section 601.5.5 Trim

The BOCA National Building Code / 1999
Chapter 14 Exterior Wall Covering
Section 1407.2.2 Construction requirements

SBCCI Standard Building Code 1997
Chapter 14 Exterior Wall Covering
Section 1404.1 Architectural trim

**ADDITIONAL
DOCUMENTS SUBMITTED
BY STARR CONSTRUCTION**

Mahan, Alan (DHCD)

m: strconst@aol.com
it: Friday, September 18, 2015 1:35 PM
paul.emerick@fairfaxcounty.gov
strconst@aol.com; McMahan, Alan (DHCD)
ject: Fwd: Siding Contract
achments: Draper Siding Contract.pdf; Draper Appendix A.pdf

Emerick, ...

ached you will find the Siding Contract and Appendix that was emailed to both Frank & Evelina Draper on May 14
2. Appendix A contains the Contract Specifications and you will see it also includes the OSI Caulking clause that
rk Draper alleges was added after the Contract was signed. The attached was emailed to them before they left on
ation so they would have the opportunity to review it before we met with them to sign the Contract.

I be forwarding the transcript from the DPOR Informal Fact-Finding Conference held February 3, 2015 this
noon. I will also be sending you some additional supporting documentation.

nk you,

ly Starr
3)921-0685

Original Message-----

n: strconst <strconst@aol.com>
fdraper <fdraper@jbg.com>; baseballgrl <baseballgrl@gmail.com>
t: Mon, May 14, 2012 6:28 pm
ject: Siding Contract

Frank & Evelina,

pe you're have a great vacation. Attached you will find the Siding Contract. Let us know when your available to
st.

t to you soon,

ly

McMahan, Alan (DHCD)

From: strconst@aol.com
Sent: Wednesday, October 07, 2015 10:46 AM
To: McMahan, Alan (DHCD)
Subject: Fwd: Siding Contract
Attachments: Draper Siding Contract.pdf; Draper Appendix A.pdf

Alan,

I am once again sending you the email and the attachments that were sent Frank Draper and his wife on May 14, 2012. Appendix A had the OSI caulking clause when it was emailed to them in 2012. I would hope that you can now see that Frank Draper will provide you with incorrect information with regards to his siding project. Between the email that you just received and the inconsistencies in his testimony at the DPOR Informal Fact Finding Hearing, I hope that you and the Board can see that Starr Construction Inc, performed the job as dictated by the homeowner.

Thank you,
Cindy Starr

-----Original Message-----

From: strconst <strconst@aol.com>
To: fdraper <fdraper@jbg.com>; baseballgri <baseballgri@gmail.com>
Sent: Mon, May 14, 2012 6:28
Subject: Siding Contract

Hi Frank & Evelina,

I hope you're have a great vacation. Attached you will find the Siding Contract. Let us know when your available to meet.

Talk to you soon,

Cindy

STARR CONSTRUCTION

Frank & Evelina Draper
1173 Old Stable Road
McLean, VA 22102

CONTRACT

This contract is entered into this 11th day of May between Starr Construction (the Company) and Frank and Evelina Draper (herein known as the "Owners") for the specified remodeling work to be performed on the residence located at 1173 Old Stable Road, McLean, VA 22102.

A. Contract Documents

The Contract Documents consist of this Contract together with the following and all addenda thereto:

- | | | |
|----|-----------------------|------------|
| 1. | Specifications | Appendix A |
| 2. | Warranty | Appendix B |
| 3. | Compensation Schedule | Appendix C |

These documents form the Contract and are as fully a part of the Contract as if incorporated herein.

B. Description of Work

The price set forth below includes ONLY the work described below, and any work discussed but not listed herein is NOT a part of this Contract.

1. **General Description:** The Company shall perform the following work per plans:
Install new specified Anderson Windows and hang new Hardie Plank siding
2. **Specifications:** The windows and siding will be installed per Vendor guidelines and to the applicable building codes.
3. **General Conditions:**
 - a. **Permitting:** This Contract subject to the issuance of any and all permits from the

7337 Wickford Drive, Alexandria, VA 22315 (703)921-0685

County of Fairfax necessary for the performance of the construction work specified in the Contract Documents. The Owners shall bear any and all increased costs resulting from any code changes or other changes in regulatory requirements imposed by the governmental authorities that become effective and are applied to the Project at any time after the date of Contract. The Owners will be responsible for and will be billed separately for the cost of the building permit(s).

b. **Utility Charges:** All electric, power, gas, water, or other utility company charges are to be paid for directly by the Owners. Any and all charges levied by the local WSSC and/or local Government agencies for additional sewer or fixture use shall be borne by the owners.

c. **Job Condition:** Construction debris shall be removed from site, and job left "broom clean." All materials delivered onsite, but not used in construction are and shall remain the property of the Company and shall be removed from the job site. Unless otherwise agreed in writing by the parties any and all materials scheduled for removal and or replacement shall be treated as construction debris and removed from the site by the Company.

d. **Material Movement:** The Company shall *not* be held responsible for damage to driveway, walks, lawns, shrub or vegetation by movement of men or materials, unless caused by negligence of the Company. It shall be the Owners' responsibility to remove any and all personal objects from the areas under construction prior to the commencement of construction. The Company shall not be held liable for accidental damage to or breakage of personal effects of the Owners, unless caused by the negligence of the Company. In the event of any such damage caused by the negligence of the Company, the Owners shall report said damage in writing within One week of the occurrence. The Company may, in its discretion, assist Owners in moving furniture, etc., under the direction of the Owners, but shall incur no liability for damage during such moving operations.

e. **Pre-Existing Conditions:**

(1) **General Provisions:** This Proposal/Contract assumes that there are no pre-existing code violations or hidden and materially adverse conditions present in the existing areas affected by the Project. The cost of addressing any such condition is not included in this Proposal/Contract, but may be negotiated separately, by Change Order.

(2) **Rotten Wood:** This Contract does not include the replacement and/or repair of any rotten wood if found in the existing areas to be painted and/or re-roofed. If the Company finds any such rotten wood, the Company shall inform the Owners and any corrective work may be negotiated separately, by Change Order.

THE CORRECTIONS OF ANY AND ALL OF THE ABOVE PRE-EXISTING CONDITIONS IS NOT INCLUDED IN THE PRICE OF THIS CONTRACT.

f. **Matching Existing Materials and Detail:** Any attempts by the Company to match

WSS / _____

existing materials and/or finishes are acknowledged to be approximate in nature. The Owners expressly agree and acknowledge that all materials and/or details shall be matched, as practical, from existing stock and/or stock available through the Company's usual suppliers, and that the match will be imperfect. No custom materials and/or custom milled materials are contemplated unless specifically provided for in this Contract.

g. **Exclusive Access:** The Owners agree that during the course of this Contract no other Contractors, except for service and repair work, shall be allowed access to the premises, unless otherwise specifically agreed in writing between the Company and the Owners.

h. **Damage by Water, Fire, Act of God, or other Casualty:** Owners shall maintain homeowner's insurance policy to cover the risks described herein. The risk of loss or damages to the Project, including damage to any and all materials delivered, but not yet installed, by water, fire, Act of God or other casualty shall be borne exclusively by Owners. The Company shall exercise reasonable care to protect the Owners' property from water damage; however, the Company disclaims liability for any and all water damage, except as may be caused by the negligence of the Company


i. **Attendant Damage:** It is understood that the ceiling and walls of the rooms adjacent to construction may require drywall repair and that any drywall repair necessitated by the construction will be undertaken by the Company and that **any painting and/or wallpapering will be the responsibility of the Owners**. The Company shall **not be liable** for damage to adjacent areas other than **drywall repair**, unless caused by the negligence of the Company.

j. **Damaged to Pre-Occupied Areas:** In the event that the Owners take possession and/or take over any portion of the project prior to completion of the job, and in the event that damage occurs to said portion of the job, the Owners shall bear responsibility for said damage unless caused by the negligence of the Company. In the event that said damage is caused by the negligence of the Company, the Owners must notify the Company in writing within 24 hours of the occurrence.

k. **Owner Provided Items:** The Company does not warrant that any items designated to be reused will survive removal and/or will be reusable. In the event replacement and/or repair is required, the cost of replacing any such item shall be borne by the Owners. The Company is not responsible, in any way, for any Owner Provided items that arrive to job site damaged. Homeowner is responsible for returns and/or exchanges for any Owner Provided items.

C. **Compensation:** In compensation for the above-described work, the Owners agree to pay the Company the total sum of forty four thousand nine hundred thirty eight dollars and 02/100 (\$44,938.02) according to the payment schedule attached hereto as Appendix C.

D. **Schedule:** Construction shall begin, approximately, July 9, 2012 (we will be out of town from June 15 – 25.) unless there are some unforeseen circumstances or there is a delay in window/siding delivery. Once begun, construction shall continue without significant unnecessary interruption until completion in

 /

order to minimize inconvenience to the Owners and will take approximately five (5) weeks. The Company shall undertake to keep a Starr Construction crew appropriate to the stage of construction employed on the job forty (40) hours per week as possible. The Company shall bear no responsibility for delays due to unavailability of materials, unanticipated public utility requirements outside the control of the Contractor, unanticipated labor walkouts, weather conditions, governmental orders, Change Orders, acts of God or any other causes beyond the control of the Company. Change Orders may delay the estimated completion time. The company will work with Owner to minimize dislocation during construction.

E Warranty: All workmanship is under warranty for one full year from the date of substantial completion, as defined in Warranty Policy Paragraph 2. The Company provides no warranty for windows siding, lighting fixtures and other materials of any kind for which a manufacturers' warranty is provided; the terms of the manufacturer's warranty will be provided by the Owner and installed by the Company, the warranty extends on only to defects in the installation resulting from the negligence of the Company.

This warranty is null and void in the event that the Owners unreasonably withhold payments due under this Contract.

Starr Construction shall bear no liability in the event that the Owners employ any other contractor to perform work covered by warranty.

F Change Order Policy:

1. Client Initiated Change Order

Any work requested that is not covered in this Contract must be requested through Bob or Cindy and will be handled by a Contract Change Order signed by both parties. Only one signature form each respective party shall be necessary to execute a Change Order and the balance will be due upon ratification.

2. Delays:

Client initiated Change Orders may add cost, disrupt the flow of work and delay the completion date of the job.

G. Governing Law; Entire Contract: This Contract shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia. This Contract and the Contract Documents attached hereto constitute the entire understanding of the parties, no other understanding, collateral or otherwise, shall be binding on the heirs, executors, administrators and successors and assigns of the Owners. The Owners shall reimburse any cost incurred in the collection of payments under this Contract that are unreasonably withheld by the Owners, to the Company.

 _____

H **Professional Identification:** Starr Construction, Inc. currently holds a Commonwealth of Virginia, Class A Contractors License, # 2705 053948A

I **Insurance:** The Company maintains a \$1 million insurance policy through Virginia Mutual Insurance Company in addition to all required general liability and auto insurance.

J **Resolution of Design, Construction and Specification Issues:** The Company reserves the right to make such non-substantive (legally non-material) deviations in the plans and specifications as becomes necessary, in the opinion of the Company, due to site or job conditions, after consultation with the Owner. In the event that the Company is unable to obtain the exact materials specified on the plans and/or specifications through the Company's ordinary and usual sources of supply within a time frame consistent with the construction schedule, or in the event of supplier or subcontractor bankruptcy and/or default of bid quote, the Company shall have the right to substitute materials or similar design, pattern and quality after consultation with the Owner.

K **Requirements Placed Upon the Owners:** The Company shall place one of the Company locks on existing door for access to the premises during construction and replace the lock with the Owners' lock at the end of construction. The Owners shall provide the Company a telephone for local telephone calls of a business nature. The Owners shall permit and provide space for the Company to display a Company sign. The Owners shall provide restroom facilities to the Company or allow the placing of a portable facility on the job site; if the Owners choose to have portable restroom facilities placed on the job sit, the cost of those facilities shall be billed separately to the Owners and are not included in the price of this Contract. The Owners shall allow the Company to place a garbage dumpster and storage trailer on the job site. The Owners shall permit the Company to take photographs and video for a visual record of the residence and the Project.

 _____

7337 Wickford Drive, Alexandria, VA 22315 (703)921-0685

Note: THE OWNER SHALL NOT SIGN THIS CONTRACT IN BLANK. THE OWNER SHALL BE GIVEN A COPY OF THIS CONTRACT, UPON RATIFICATION.

Date

Frank Draper

Date

Evelina Draper

5/11/2012
Date

Robert W. Starr
Robert W. Starr

REWS

**Starr Construction
Appendix "A"**

Specifications

General:

- A. Definitions:
1. SC – Starr Construction, Inc.
 2. BOCA – Building Officials and Code Administration
 3. CABO – Council of American Building Officials
 4. MEACAPFCSS – Match existing as close as practical from Company's standard stock.
 5. OAESBC – Or as equal substitution by Company
 6. NIC – Not in Proposal/Contract
 7. OPCI – Owner provided Company installed.
- B. Dimensions: Frame walls indicate rough framing (face of stud to face of stud) unless otherwise noted. Written dimensions on these drawings take precedence over scaled dimension
- C. Codes: SC shall be responsible for ensuring all work is in accordance with all applicable state, local, and national codes and ordinances.
- D. Existing Structural Integrity: These drawings neither approve nor imply the structural integrity of the existing conditions, such being solely the responsibility of the Owner(s).
- E. Installation Methods: New fixtures, fittings, finishes, miscellaneous products, appliances, electrical, and mechanical equipment shall be installed as per the manufacturer's instructions and specifications.
- F. Cleaning: All debris and demolished materials are to be removed from the site at frequent intervals and/or placed in a site dumpster provided by the Company. Location of dumpster shall be approved by Owner(s). Area of construction shall be broom swept daily.
- G. Material Storage: All materials shall be delivered, stored, and handled to prevent inclusion of foreign materials or damages by breakage. Whenever possible, materials shall be kept in original packages until ready to use.
- H. Owner Provided Items: The Company assumes no liability for damage to any items provided by the Owner(s), including, but not limited to scratches, chipping, etc., that may occur during storage, delivery, installation or otherwise during the course of the construction process, unless caused by the negligence of the Company, including any such items provided by the Owners(s) and installed by the Company.

KWS / _____

- I. Alternates: Items indicated as alternate are for pricing purposes only and not part of the base Contract.

Rough Carpentry

- Comply with NFPA Manual for house Construction, latest edition.
- Spruce-pine-fir # 2 structural unless other wise noted.

Millwork:

- Interior mouldings:
 - Door casing – MEACAPFCSS
 - Base moulding – MEACAPFCSS – unless otherwise specified
- Drywall finish shall be deemed acceptable when a blemish is deemed non-objectionable by a reasonable third party when viewed, under normal daylight conditions, from a distance of 8 feet.

Paint:

- Owner is responsible for wall paper, priming & painting

Electric:

- Outlets per code
- Provide Switches – Per plans

OPCI – Owner provided Contractor installed

Siding & Trim:

- Remove all old siding and trim from exterior of house
- Repair plywood as needed - \$65.00 per sheet
- All areas that will have new siding and trim will be wrapped with Tyvek.
- All Tyvek seams will be taped with recommended Tyvek tape
- All fascia will be replaced with 1 x 6 PVC
- All fascia will be screwed to existing house framing with 2 ½" galvanized screws
- A PVC bedmoulding detail will be installed under all soffits
- All soffits will be Hardie soffit in arctic white Hardie siding with PVC crown detail.
- Trim will be 5/4 x 4 Hardie trim in arctic white at all corners, soffits and along brick sill, doorways and windows.
- All rakes will be 5/4 x 6 Hardie trim with PVC rake detail.
- A 5/4 x 4 Hardie trim freeze board will also be installed under all soffits and rakes
- All siding and trim will be caulked with OSI caulking, color to match siding and trim.
- Install Hardie Plank, Artic White, Cedarmill standard stock, 8 ¼" siding
- All Hardie siding "butt end" seams will be flashed, but not caulked per Hardie Siding installment requirements.

- ↓ No additional OSI caulking has been included for the butt end seams. If caulking is requested by homeowner, additional charges may be assessed for caulking and no warranty will be provided for any "butt end" seam issues. Once caulking has been applied to "butt end" seams, caulking cannot be removed or changed. _____/_____

Windows:

- Install 12 proposed windows, see attached, in the back bedroom, front end bedroom, front bathroom, middle bedroom, front foyer, front family room, front living room, back dining room, back family room, laundry room and garage. **Window allowance - \$ 6,438.02**
- Install new interior trim from Company's standard stock to match existing windows as close as possible. Any change of material, from the standard company stock, for custom wood work will result in additional charges

Homeowner will be billed for any charges that are greater than the above and a credit will be issued for any amount below allowances

cMahan, Alan (DHCD)

From: strconst@aol.com
Sent: Wednesday, September 23, 2015 10:46 AM
To: McMahan, Alan (DHCD); Potts, Richard (DHCD)
From: paul.emerick@fairfaxcounty.gov
Subject: Transcripts from DPOR Hearing - February 3, 2105 (Email 4)
Attachments: DPOR Informal Hearing Transcript Pages 73 - 94.zip

is is Email 4 of 4 of the Transcript of the DPOR Informal Fact Finding Conference.

Thank you,
Andy Starr

1 MR. SMITH: No.

2 MR. HAUGHWOUT: All righty.

3 Ms. Rhodenhiser is making copies

4 of -- of the letter, --

5 MS. STARR: Okay.

6 MR. HAUGHWOUT: -- and, then,

7 we'll....

8 MS. STARR: I sent to the Fairfax

9 County the building code appeal request appeal form, and,

10 so, that's what they're waiting -- because the

11 information that they cited is not valid -- or is not

12 correct, I guess.

13 MR. HAUGHWOUT: All right, Mr.

14 Smith -- Mr. Chairman, we're -- we'll include

15 additionally in the record a letter dated November 19th,

16 2014, from Starr Construction to the Fairfax County

17 Department of Public Works and Environmental Services.

18 This is their response to the notification from Fairfax

19 County about the possible building code violations.

20 And I'll include that as Starr

21 Exhibit Number 7 and put that in the record.

22 NOTE: Letter dated November 19,

23 2014, to Fairfax County Department of Public Works was

24 marked as Starr Exhibit 7.

25 MR. HAUGHWOUT: Mrs. Starr, you

Tammie M. Brown, CCR

1 had something you wanted to say.

2 MS. STARR: If you -- on the page
3 4 of the response that Frank Draper submitted to you in
4 his complaint, on issue five, butt joints -- which is, in
5 his own writing, he contradicts his statements that he
6 made to you all. That's all.

7 MR. HAUGHWOUT: I'm sorry. You
8 said on page 5?

9 MS. STARR: Page 4.

10 MR. HAUGHWOUT: Okay.

11 MS. STARR: It's -- it's --

12 MR. HAUGHWOUT: Issue --

13 MS. STARR: -- page 4 --

14 MR. HAUGHWOUT: -- issue -- issue
15 number --

16 MS. STARR: -- issue five.

17 MR. HAUGHWOUT: -- five. Okay.

18 MS. STARR: We never had a
19 discussion with SC regarding butt joint alignment over
20 studs prior to or during the installation.

21 MR. HAUGHWOUT: Well, let me --
22 let me ask you this -- I think what Mr. Draper was
23 referring to had to do with conversations about caulking
24 so --

25 MS. STARR: Well, they had taken

1 part of it off because he didn't like the butt joints
2 were staggered.

3 MR. HAUGHWOUT: Okay.

4 Mr. Draper, can I get you --

5 MR. DRAPER: Yes.

6 MR. HAUGHWOUT: -- to address this
7 issue of the staggering of the butt joints?

8 MR. DRAPER: The staggering of the
9 butt joints?

10 MR. HAUGHWOUT: Yes, sir.

11 MR. DRAPER: I'm not -- I didn't
12 hear exactly what Mrs. Starr said --

13 MR. HAUGHWOUT: I believe --

14 MR. DRAPER: -- about that.

15 MR. HAUGHWOUT: -- Mrs. Starr was
16 referring to your -- your original complaint to the
17 Department where you had a line item on page 4 about
18 issue number five, butt joints were not installed on
19 studs; in addition, butt joints were not staggered a
20 minimum of two stud bays (phonetic).

21 And, in your -- in your narrative,
22 you said we never instructed -- I'll say the contractor
23 -- Walter from the James Hardie installation inspection
24 regarding the ends of planks landing over studs. Also,
25 we never had discussions with the contractor regarding

1 butt joint alignment over studs prior to or during the
2 installation.

3 I think what Mrs. -- Mrs. Starr
4 was saying is that you did in fact have that
5 conversation, and that you were -- you were contradicting
6 -- you were contradicting yourself or you had made
7 contradictory statements. I'm trying to clarify it.

8 I believe your earlier testimony
9 was that you had a conversation with Starr Construction
10 about caulking of butt joint. Was there --

11 MR. DRAPER: Yeah.

12 MR. HAUGHWOUT: -- was there ever
13 a conversation about the installation or the staggering
14 of the butt joints themselves?

15 MR. DRAPER: No, I was not aware
16 of that per the specifications and -- and -- and
17 specifically also that the studs -- like that one section
18 was not installed over studs, I had no idea that they had
19 to be installed over studs so that was also never
20 discussed. That came up once the HardiePlank inspector
21 came out to do his inspection.

22 The reason why we had the
23 discussion was because just appearance that the -- the
24 butt joints were so close together it just -- it didn't
25 look correct. It looked bad. And, so, we told them do

1 not put the -- the butt joints so close together. That's
2 -- it doesn't look good.

3 MR. HAUGHWOUT: Okay.

4 MR. DRAPER: Some of them were
5 within four inches, I believe.

6 MR. HAUGHWOUT: Okay. Thank you.

7 *Witness statement*

8 MR. B. STARR: I'd like to add to
9 just -- I know you -- this is why I said that I didn't
10 know Frank had been there during this conversation
11 earlier when I was talking about caulking the seams, but,
12 the side that we did start on, we -- the way we ran our
13 -- started using our siding is we, you know, a whole
14 piece on, and, then, what was left, you know, we cut that
15 small piece. And, then, our scrap from that, we'd bring
16 it to the other side and start again so that we used our
17 material the best way possible.

18 And the way that ended up, you
19 know, as you can tell, it would be really random. There
20 wasn't anything to it. And, when Evalina came out, I
21 know -- like I said, I don't remember if Frank was there
22 or not, but I know Evalina didn't like how random all
23 those were. And I know in one of the -- a couple of the
24 pictures we went back and we made our seams go like up at
25 an angle, you know, one after another, and it -- it used
a lot more material to do it that way but --

1 And, like I said, I don't remember
2 if Frank was there for that conversation, but it was
3 definitely a conversation we had with Evalina, and we
4 changed the way that we did the seams to make them more
5 aesthetically pleasing.

6 MR. HAUGHWOUT: Mr. Draper, let me
7 -- let me ask you this: Was there --

8 MR. DRAPER: I -- I agree with
9 that. That is true.

10 *on page 79-line 12-15* *See conflicting statement*

11 MR. HAUGHWOUT: Okay.

said No discussion

12 MR. DRAPER: But, once it was put
13 up, we didn't like it because they were so close
14 together, and -- and -- and that's what even the
15 HardiePlank guy said is that the way it was put up it was
16 to minimize waste, and it wasn't done in accordance with
17 the requirement in the -- in the specifications.

18 MR. HAUGHWOUT: Okay.

19 So let me -- I'm just trying maybe
20 to -- maybe to help get a better idea of kind of what's
21 going on. I mean, who -- who was sort of the -- I'll say
22 the -- the primary contact on this contract? Was it you,
23 Mr. Draper, or was Mrs. Draper? Who -- who was -- if the
24 contractor had any questions, I mean, who would they go
25 to?

MR. DRAPER: I was the primary

1 one. I'm sure there were discussions with my wife with
2 me not being there. I could easily see that happening.
3 But I was the primary person. I'm the one that was
4 cutting the checks and -- and -- and talking with Mr.
5 Starr and -- and the others throughout the -- the
6 project.

7 MS. STARR: Her name is on the
8 contract as well as the complaint so she was very well
9 involved with -- I mean, she was very much involved with
10 the whole process.

11 MR. HAUGHWOUT: You're saying --
12 you're saying -- you're saying Mrs. Draper was involved
13 with the process?

14 MS. STARR: Yeah, she -- her name
15 was on the contract. As well as, her name is on the
16 complaint that they submitted which you clarified at the
17 beginning.

18 **WITNESS** MR. D. STARR: It was almost like
19 every time we actually did work, anything that Frank
20 wanted done, she would pick the opposite, and we ended up
21 going with her decisions.

22 MR. HAUGHWOUT: I'm sorry. I may
23 need you to speak up so the court reporter can hear you.

24 **WITNESS** MR. D. STARR: The -- the
25 decisions that like were made in the beginning of the

1 morning, they had like two ideas, and the decisions -- or
2 the way that Frank liked it wasn't how Evalina wanted it,
3 and we ended up going with Evalina's choice rather than
4 Frank's --

5 MR. HAUGHWOUT: Okay.

6 MR. D. STARR: -- a lot of the
7 time.

8 MR. HAUGHWOUT: Okay.

9 Mr. Draper, is there anything you
10 wanted to say regarding that?

11 MR. DRAPER: I wasn't aware of any
12 situation where I wouldn't have been in agreement with my
13 wife in terms of putting up the siding so I -- you know,
14 I'm sure there were conversations that they had, but --
15 but my wife did not know anything about the -- the
16 specifications and -- and it was a lot -- the main thing
17 that was her concern was -- were the butt joints.

18 MR. HAUGHWOUT: Okay.

19 MR. DRAPER: She commented on the
20 butt joints and whether they needed caulk or not
21 initially.

22 MR. HAUGHWOUT: Mr. Chairman, did
23 you have any questions at this -- at this stage?

24 MR. SMITH: No.

25 MR. HAUGHWOUT: Okay.

1 Mr. Draper, I think we're probably
2 getting to a point where we're about ready to -- we're
3 about ready to wrap things up. Is there anything
4 regarding what we've discussed today and the -- the
5 charges in this case -- is there anything -- anything
6 that you wanted to comment on or clarify before -- before
7 we move on?

8 MR. DRAPER: No, I'm not aware of
9 any additional items so.

10 MR. HAUGHWOUT: Okay. Thank you.

11 Mr. Starr, as I told you before,
12 we'd kind of give you the opportunity to have the last
13 word. Is there anything else that you -- regarding what
14 we've talked about today, is there anything else that
15 you'd like to say?

16 I know you've submitted some
17 additional -- I know you've submitted some additional
18 evidence. Did you want to talk about that or you just
19 want that included in the record?

20 MR. R. STARR: Just include it in
21 the record.

22 MR. HAUGHWOUT: Okay.

23 Is there any other -- any other
24 comments or points, any sort of concluding remarks, that
25 you wanted to make before we wrap up our conference

1 today?

2 MR. R. STARR: No.

3 MR. HAUGHWOUT: Okay.

4 MR. DRAPER: Could I -- could I
5 just say if you could please include the Fairfax notice
6 of violation?

7 MR. HAUGHWOUT: Mr. Draper, we do
8 have -- we do have a -- we do have a copy of the Fairfax
9 County notice of violation.

10 MR. DRAPER: Okay.

11 MR. HAUGHWOUT: The inclusion of
12 it in the record would be up to the presiding chairman.

13 Mr. Chairman, would you want that
14 included in the record?

15 MR. SMITH: The letter from
16 Fairfax County?

17 MR. HAUGHWOUT: It's a -- it's a
18 -- it's a -- it's a notice of violation.

19 MR. SMITH: Clarification of
20 violation.

21 MR. HAUGHWOUT: If you want it
22 included in the record, we can -- we can go ahead and put
23 it in the record.

24 MR. R. STARR: What is my
25 violation?

1 MR. SMITH: If it pertains to it,
2 I would put it in the record -- recommend putting it in
3 the record --

4 MR. HAUGHWOUT: Okay.

5 MR. SMITH: -- but -- because it
6 was submitted for that address and from Fairfax County.

7 **WITNESS** MR. B. STARR: I'd like to add as
8 a worker -- I could probably speak for the other two as
9 well -- we -- we had a good time working there. I mean,
10 they were nice people. They -- they gave us -- they
11 bought lunch, drinks, snacks every once in awhile.

12 So, from our side of it, I mean,
13 there never seemed like there was any kind of conflict or
14 they were unhappy with anything. Everything seemed to go
15 smooth the whole time.

16 MR. SMITH: Sure.

17 MR. R. STARR: We let their dog
18 out. We gave it water. I mean, they were --

19 MR. B. STARR: We like to -- we
20 like to, you know, have more of a personal -- we do a job
21 at a time so it's more of a personal relationship with
22 our clients, and most of our clients look at us like, you
23 know, family, would invite us over after we're done our
24 jobs and everything. So, I mean, it's the kind of
25 relationship we like to build so --

MR. SMITH: Good.

MR. B. STARR: -- it's really
unsettling.

MR. R. STARR: This is my first
and only complaint in 36 years.

MR. HAUGHWOUT: Mr. Chairman, we
will include additionally in the record a copy of a
notice of violation from the Fairfax County Building
Department dated November 25th of 2014, and I provided a
copy of that notice of violation to Starr Construction as
well.

I assume you've received -- I
assume you've received that from --

MS. STARR: Correct. The letter
that you have --

MR. SMITH: Right.

MS. STARR: -- that you -- you --
that was submitted, I think November 19th, was in
response to another one. They reissued the same --
essentially the same issue with saying that, if we didn't
agree with it, then we had to file the appeals form which
is the building code appeal request form that I
submitted, and they said that we'll hear from them at
some point.

MR. HAUGHWOUT: At this point, if

1 I understand, you're appealing -- you're appealing the
2 determination of a building code violation.

3 MS. STARR: Correct.

4 MR. HAUGHWOUT: It needs to be
5 adjudicated by the -- the Fairfax County Building Code
6 Appeals Board?

7 MS. STARR: Correct, because they
8 -- correct. There are issues at which -- the last one
9 dated November 25th is no different than the other one
10 prior to that was responded to on November 19th which is
11 the letter that you copied and submitted into record.

12 MR. HAUGHWOUT: Okay.

13 MS. STARR: And what was different
14 is we had the right to appeal it, and, so, I did because
15 I guess, from my standpoint, with all the conversations
16 and the information I had sent back, they didn't know
17 where to go with it so they were going to pass it on to
18 somebody else to hear the whole scope of it to make their
19 decision.

20 MR. HAUGHWOUT: Okay. All right.

21 Mr. Chairman, did you have any
22 questions pertaining to that document?

23 MR. SMITH: No.

24 MR. HAUGHWOUT: Okay.

25 MR. SMITH: You're fine. I'm

1 going to put this one right here.

2 MR. HAUGHWOUT: All righty.

3 Mr. Starr, I'll -- I'll ask you:
4 Is there any -- is there -- are there any other points or
5 comments you want to make, anything you want to clarify
6 before we -- before we wrap up the conference?

7 MR. R. STARR: I'm good.

8 MR. HAUGHWOUT: You're good?

9 MR. R. STARR: (Nodded head
10 affirmatively.)

11 MR. HAUGHWOUT: Okay.

12 So, at this stage, Mr. Chairman,
13 we're about ready to -- we're at a point where we're
14 going to conclude the conference.

15 I will just briefly cover what's
16 going to happen after today.

17 After today -- first off, there
18 won't be a final decision made today. Mr. Smith will
19 make a recommendation to the Board regarding this case.
20 You'll receive a copy of that recommendation several
21 weeks from our conference today. I'd estimate anywhere
22 between four and six, but it may be longer.

23 But you'll receive Mr. Smith's
24 recommendation along with notification of the date and
25 time where this case will be presented to the full Board

1 for Contractors for a final decision.

2 You're welcome to come to the
3 Board meeting to address Mr. Smith's recommendation. You
4 would not at the Board meeting be able to provide any new
5 evidence or testimony to the Board regarding the case,
6 but you could comment on Mr. Smith's recommendation and
7 the Agency record. And the Agency is the documents that
8 we've included in the record today as well as the
9 documents that were previously sent to Starr Construction
10 Inc. with the Report of Findings and the investigative
11 file as well as the transcript of the conference.

12 The Board will have an opportunity
13 to review those documents before making a decision and
14 will also have the opportunity to review Mr. Smith's
15 recommendation. The Board will -- if you appear at the
16 Board meeting, you'll have an opportunity to comment on
17 the recommendation and the Agency record. The Board will
18 make a final vote.

19 If -- if you are present at the
20 Board meeting, you will know what the final decision is
21 that day. If you are not present at the Board meeting,
22 you will still be notified of the final decision. It
23 will be sent by mail within five days of the Board
24 meeting.

25 The Board may accept the

1 recommendation that it is presented -- or that's
2 presented to them or it may change it. It may find no
3 violation where Mr. Smith recommends the Board find a
4 violation or vice versa. It may raise or lower any
5 recommended sanctions. It may choose to add a sanction
6 or remove a sanction as it -- as it believes is
7 appropriate.

8 With that said, Mr. Draper, do you
9 have any questions about the process going forward?

10 MR. DRAPER: No, I do not have any
11 further questions.

12 MR. HAUGHWOUT: Thank you, sir.

13 Mr. Starr, do you have any
14 questions about the process going forward?

15 MR. R. STARR: No, sir.

16 MR. HAUGHWOUT: All right.

17 Mrs. Starr, you had a question?

18 MS. STARR: When you said they can
19 add a additional sanction to the ones that he recommends
20 or what -- is -- but that's not adding additional --

21 MR. HAUGHWOUT: It's not --

22 MS. STARR: -- charges?

23 MR. HAUGHWOUT: -- it's not -- No,
24 ma'am, it's not adding a charge. The Board has a -- the
25 Board has a range of sanctions that it can impose. It

1 can impose a monetary penalty of up to 25 hundred dollars
2 for any regulatory violation. It may impose license
3 suspension. It may impose license revocation. It may
4 impose or -- or require the attending of remedial
5 education. So those are the range of things the Board
6 can do.

7 The Board in its discretion can
8 deviate from a recommendation to add a sanction or take
9 away -- take away a sanction

10 MS. STARR: Did that -- I was more
11 concerned that based on what you said that they were
12 going to add other violations that he couldn't rebuttal,
13 not sanctions.

14 MR. HAUGHWOUT: If -- if the -- if
15 the Board -- if the Board in its opinion determines that
16 there may be other issues, other possible violations that
17 aren't addressed in this case, the Board would -- the
18 Board could direct -- could direct that the case be
19 returned for further investigation, and -- and, if in
20 fact that investigation determines there should be
21 additional charges, then, it would go through a process
22 kind of like the one we're having --

23 MS. STARR: Oh, yeah.

24 MR. HAUGHWOUT: -- today. There
25 would be another IFF conference to address any additional

1 charges or any additional issues.

2 MS. STARR: Oh, that's fine.

3 MR. HAUGHWOUT: So it wouldn't --
4 the Board would not be able to, you know, I'll say, you
5 know, add a new violation at the Board meeting and say,
6 oh, well, no, you're guilty of -- of this new thing
7 without giving you an opportunity to address that.

8 MS. STARR: Okay. That's my only
9 concern.

10 MR. HAUGHWOUT: Absolutely.
11 Certainly.

12 Any other -- did you have any
13 other questions?

14 Okay.

15 What we will do at this stage is
16 we will -- we will adjourn the Informal Fact-Finding
17 Conference pending the issuing of Mr. Smith's
18 recommendation, and, at this point, we will -- we will go
19 ahead and go off the record.

20 NOTE: Off the record at 3:56 p.m.
21
22
23
24
25

CERTIFICATE OF COURT REPORTER

I, Tammie M. Brown, a Certified Court Reporter, hereby certify that I was the Court Reporter at the Informal Fact-Finding Conference regarding Starr Construction Inc., heard in the County of Henrico, Virginia, on February 3, 2015, at the time of the hearing herein.

I further certify that the foregoing transcript is a true and accurate record of the testimony and other incidents of the hearing to the best of my ability.

Given under my hand this 17th day of February, 2015.

Tammie M Brown

Tammie M. Brown, CCR

My Commission Expires:

March 31, 2015

Notary Registration Number: 283818

Tammie M. Brown, CCR

**ADDITIONAL
DOCUMENTS SUBMITTED
BY FAIRFAX COUNTY**



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

Attn: Vernon Hodge, Secretary to the State Technical Review Board
Commonwealth of Virginia
Department of Housing and Community Development
Technical Assistance Services Office (TASO) and Office of the State Technical Review Board
Main Street Centre, 600 E. Main Street, Suite 300
Richmond, Virginia 23219

Re: Appeal Decision Rendered by the Fairfax County Local Board of Building Code Appeals
Appeal no. 15-6
In Re: Starr Construction, Inc.

To Whom It May Concern:

The Fairfax County Building Official respectfully requests that the State Technical Review Board affirm the decision rendered by the Local Board of Building and Fire Code Appeals.

Issue #1:

The Building Official is not involved in the DPOR investigation of Starr Construction beyond responding to questions from Investigator Tyler, who contacted the County.

Issue #2:

The Building Official issued a Corrective Work Order on three occasions due to questions about the code section referenced. We did add one item to the list in Violation # 1, all related to Section 703.10.

Issue #3:

The Building Code Official has checked with the siding manufacturer, James Hardie, who has confirmed that there were not any significant changes to their installation guide from 2012 to 2013.

Issue #4:

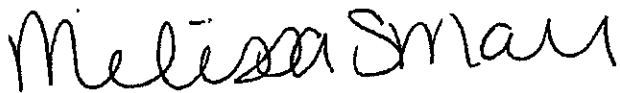
The Building Code Official cited two code sections for Violation # 2 (VRC Section 703.10), whereby the Virginia Residential Code incorporates a manufacturer's guidelines concerning proper installation, etc.

Department of Public Works and Environmental Services
Land Development Services, County Building Official
12055 Government Center Parkway, Suite 444
Fairfax, VA 22035
Phone: 703-324-1780, 703-324-1980 TTY: 711, Fax: 703-324-1847
www.fairfaxcounty.gov/dpwes/lds

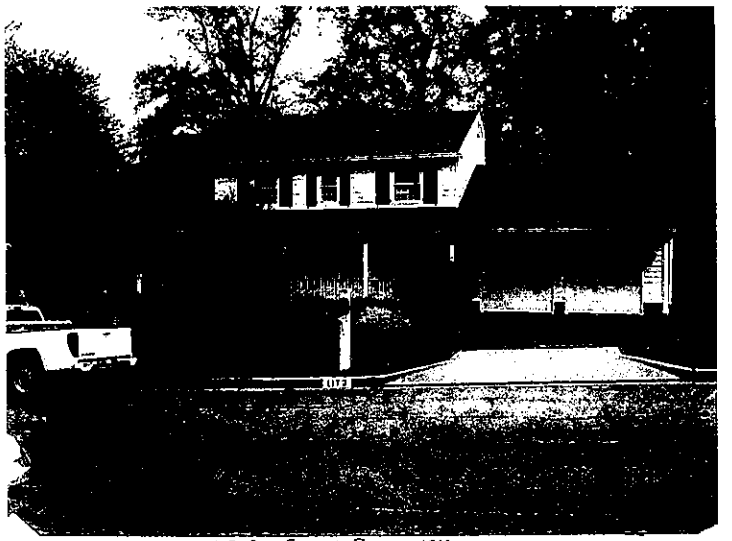
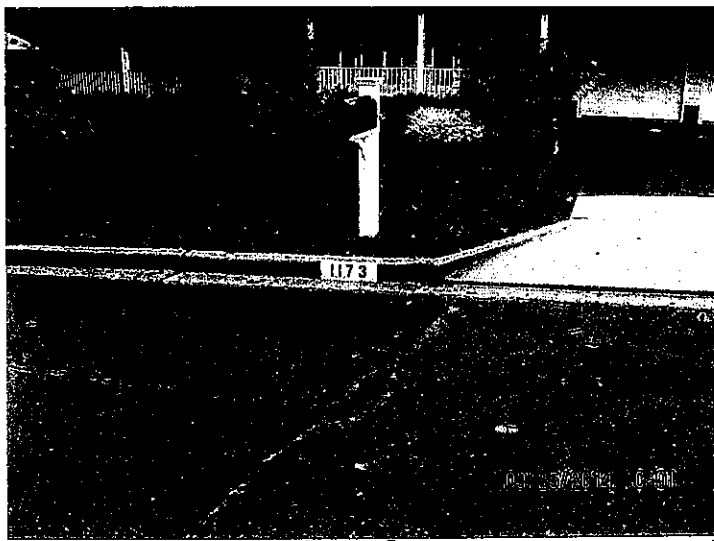
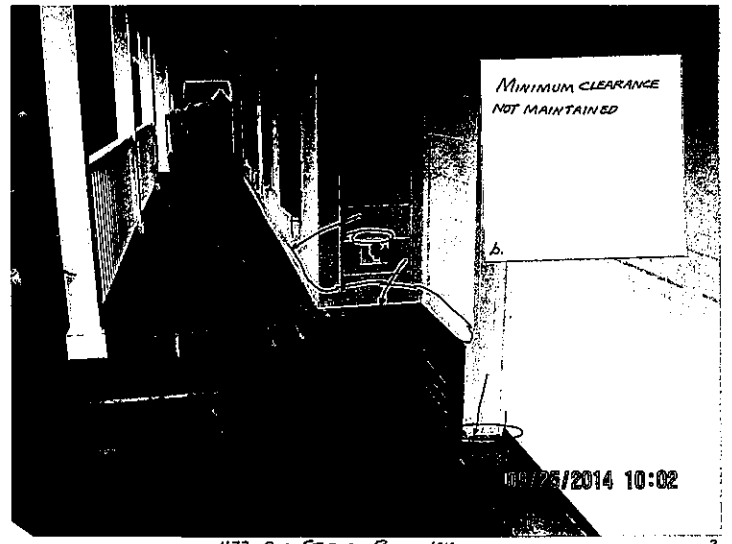
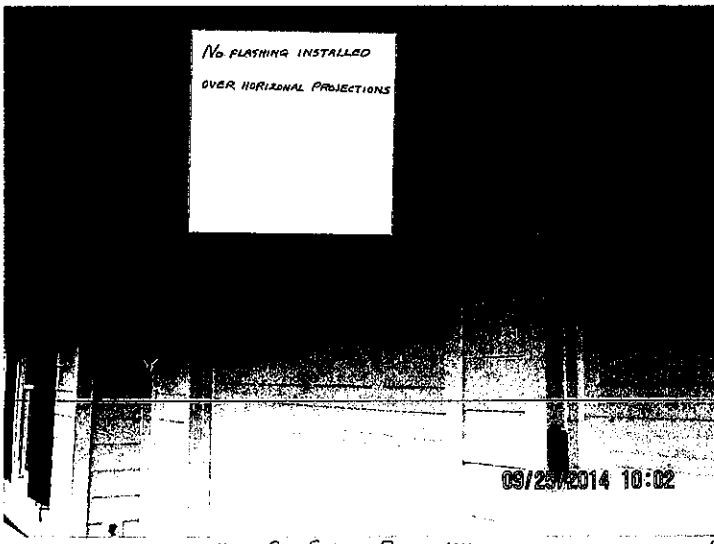
Fairfax County respectfully request that the Technical Review Board affirm the decision of the Local Board of Building Code. If you have any questions, please contact Melissa Smarr at 703-324-1929.

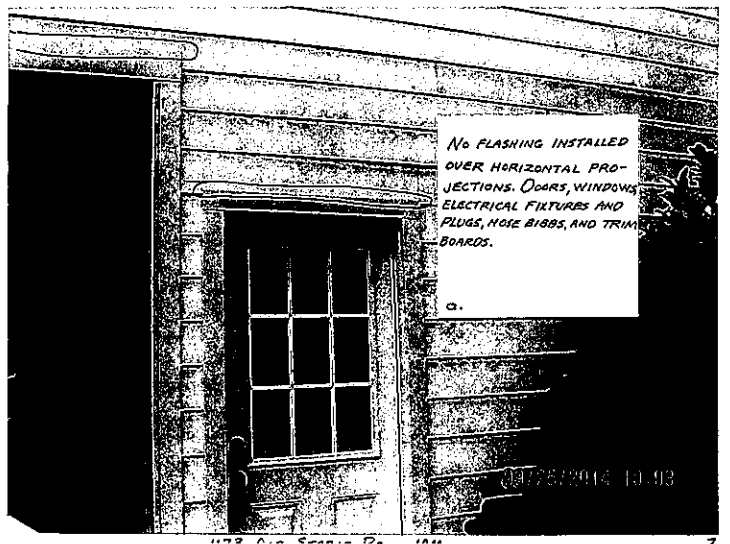
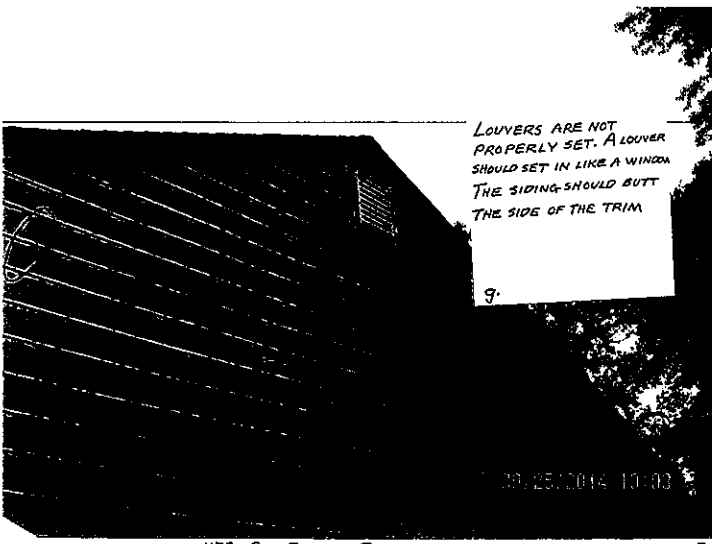
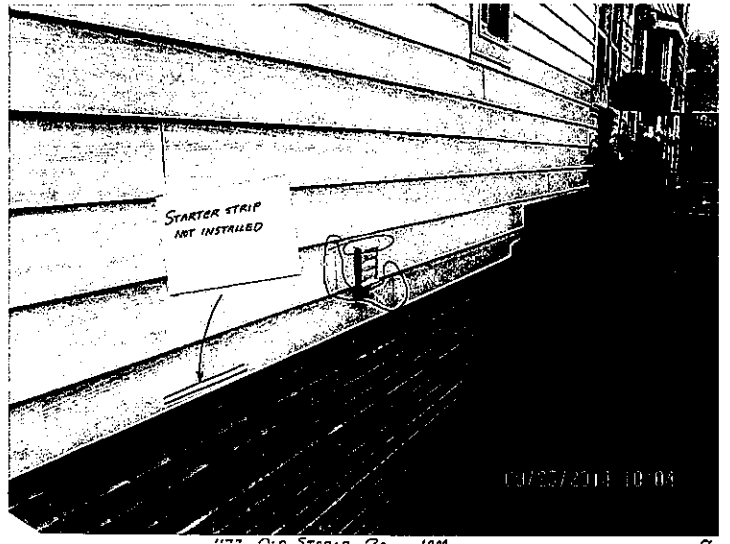
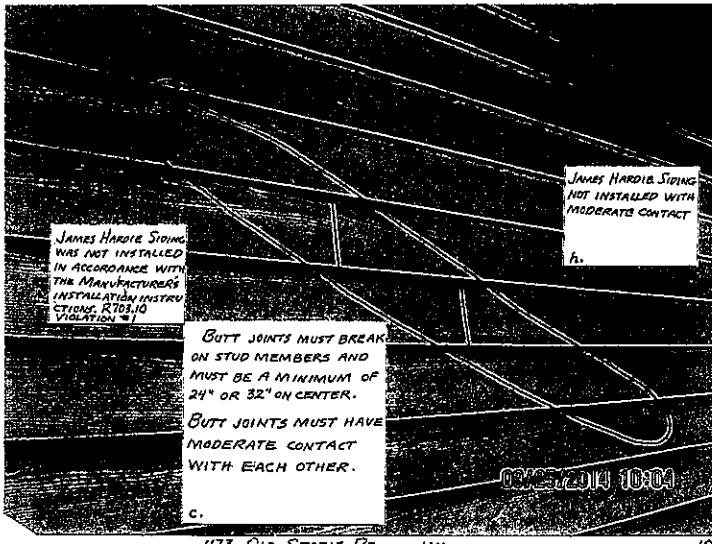
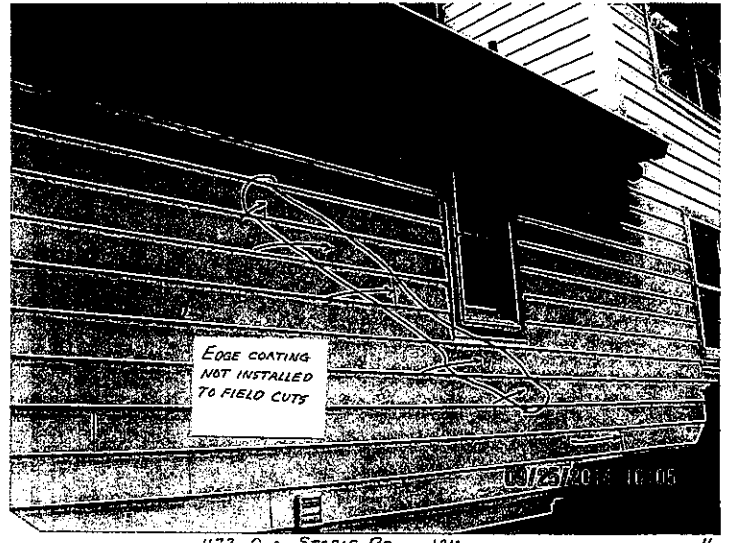
Thank you very much.

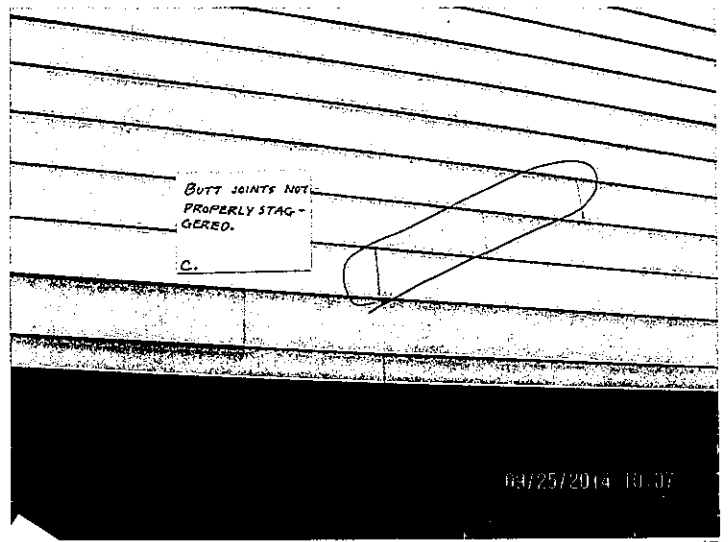
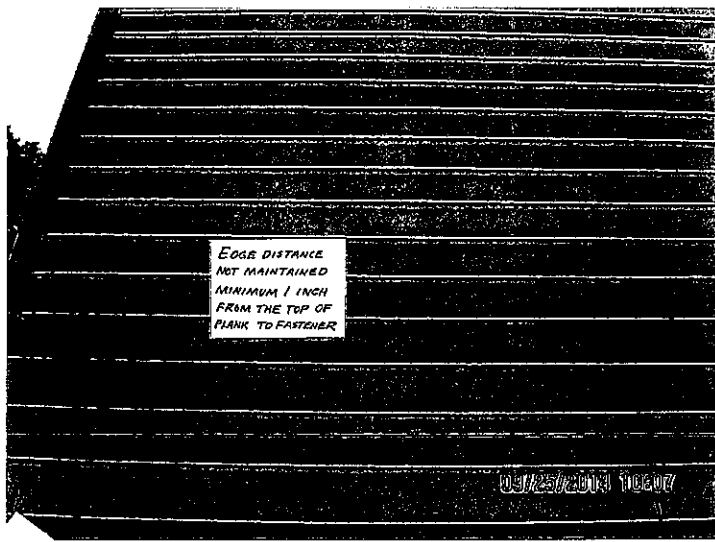
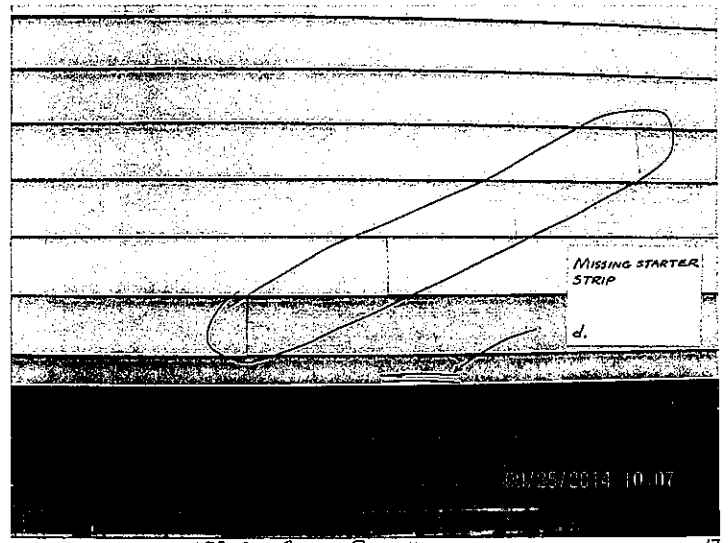
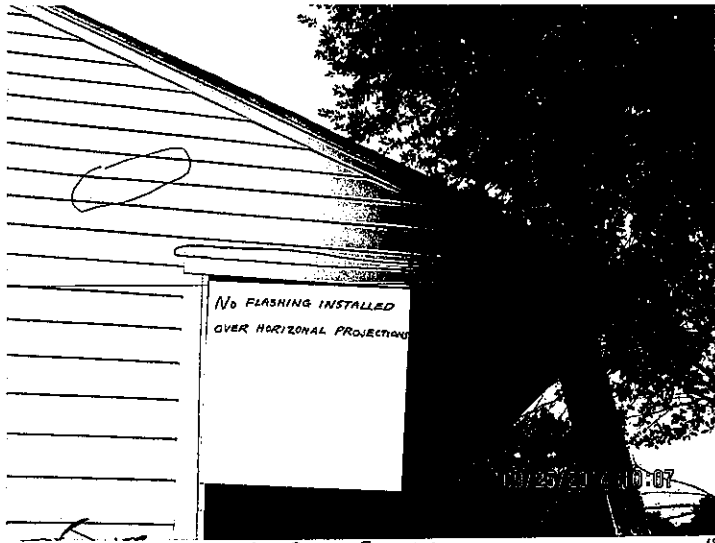
Sincerely,

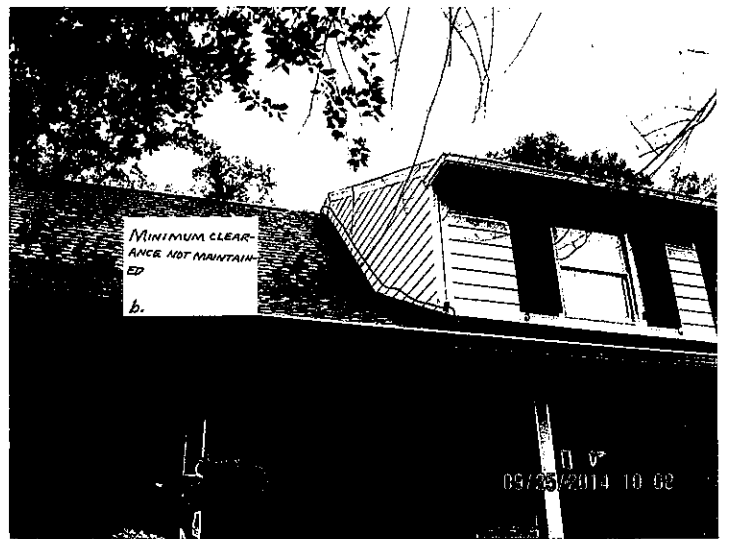
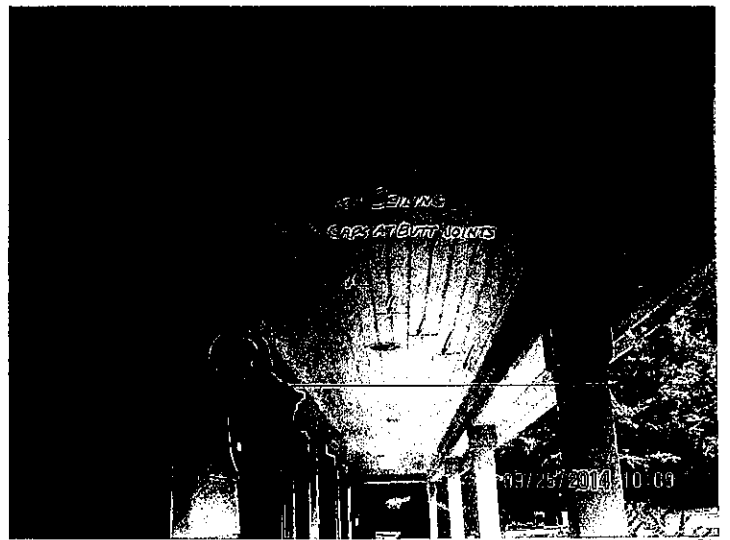
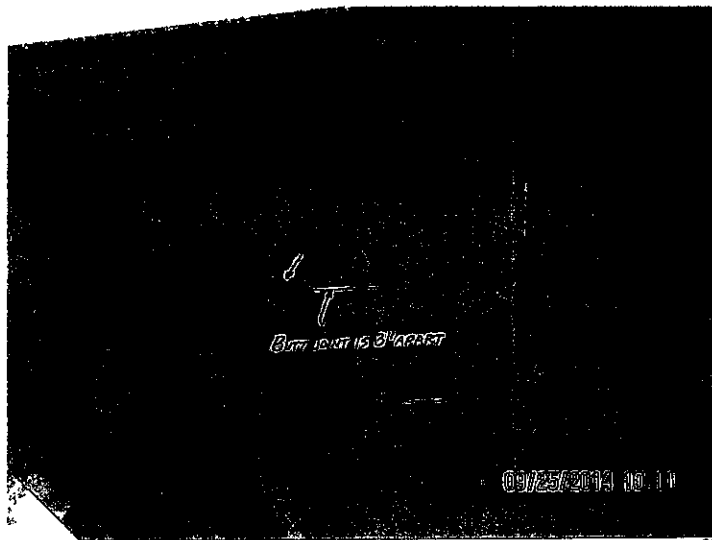
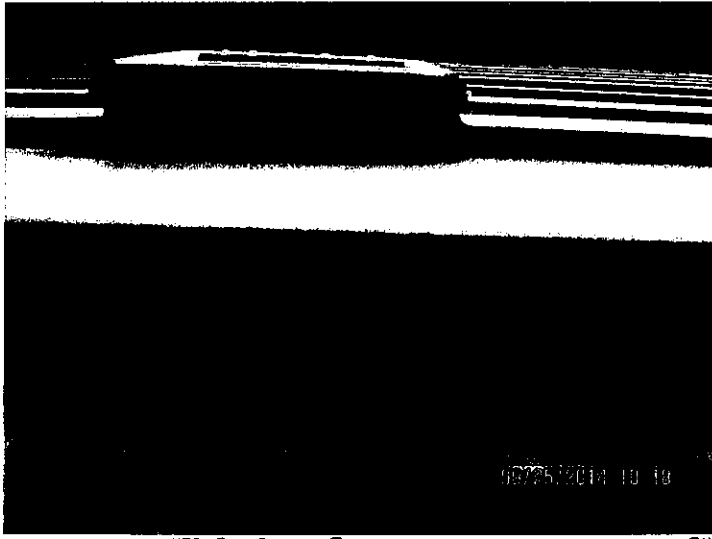
A handwritten signature in black ink that reads "Melissa Smarr". The signature is written in a cursive, flowing style.

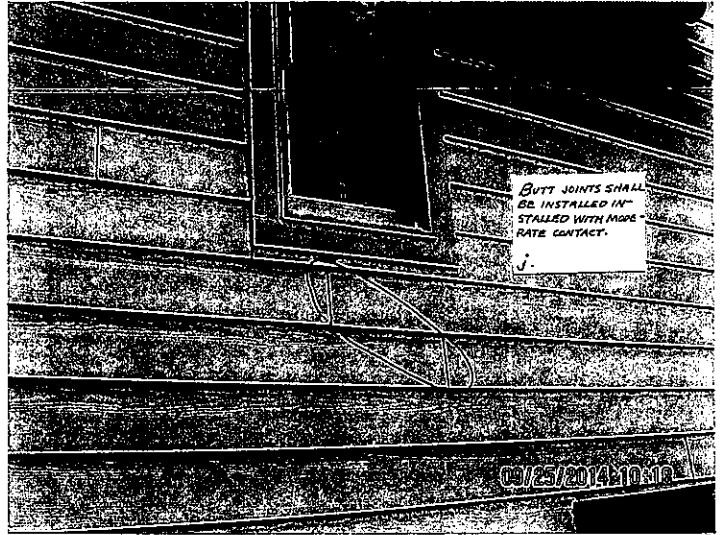
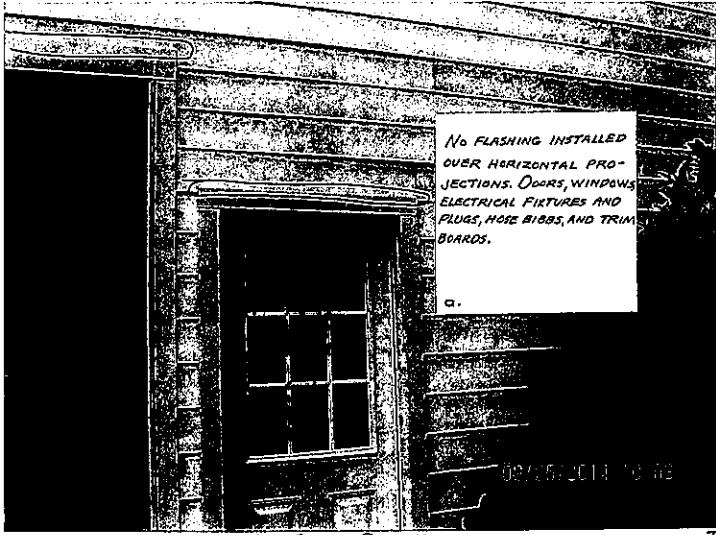
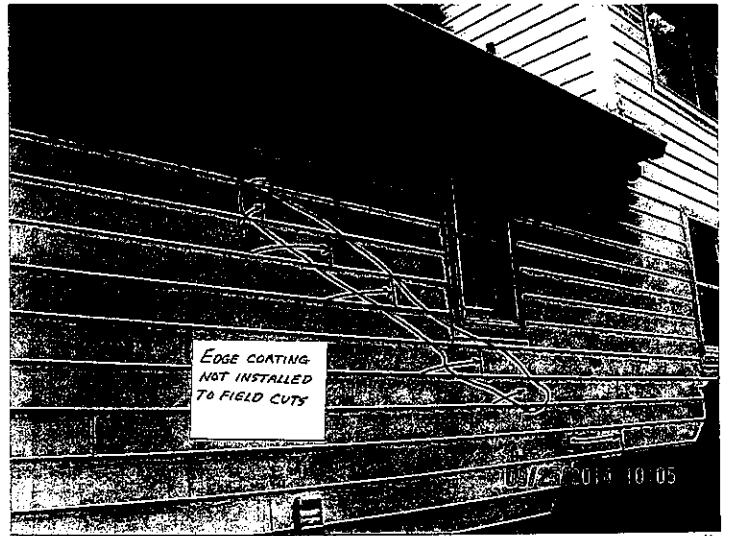
Melissa Smarr, Code Specialist III

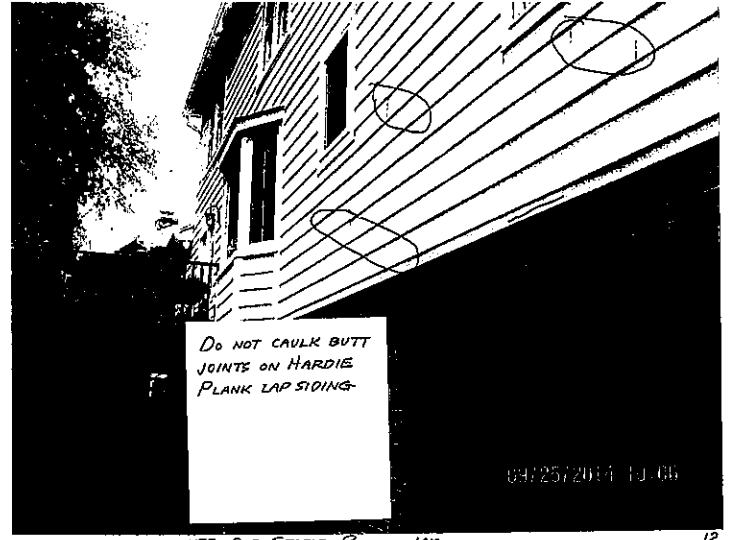
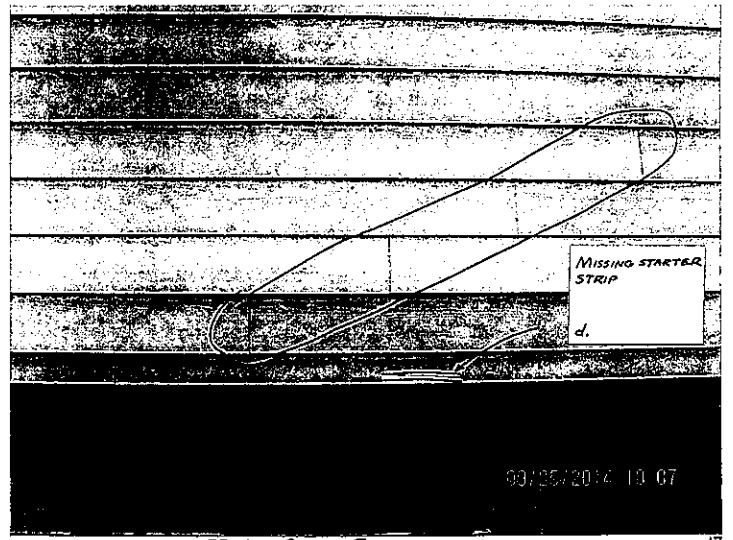


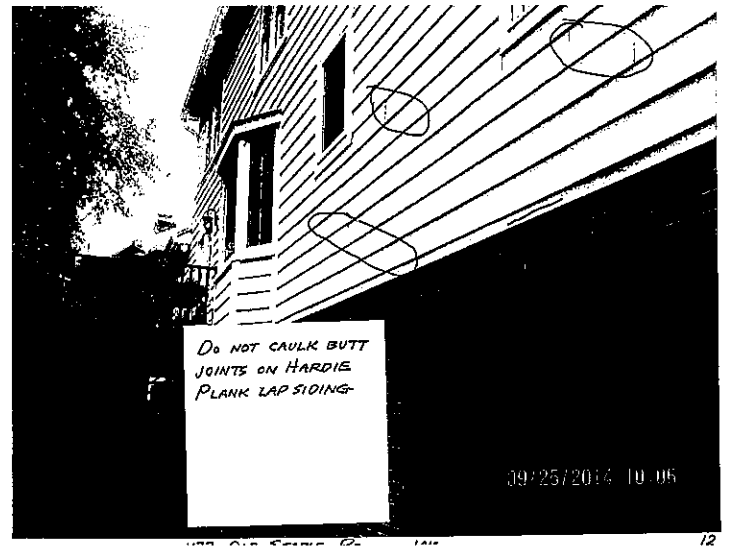
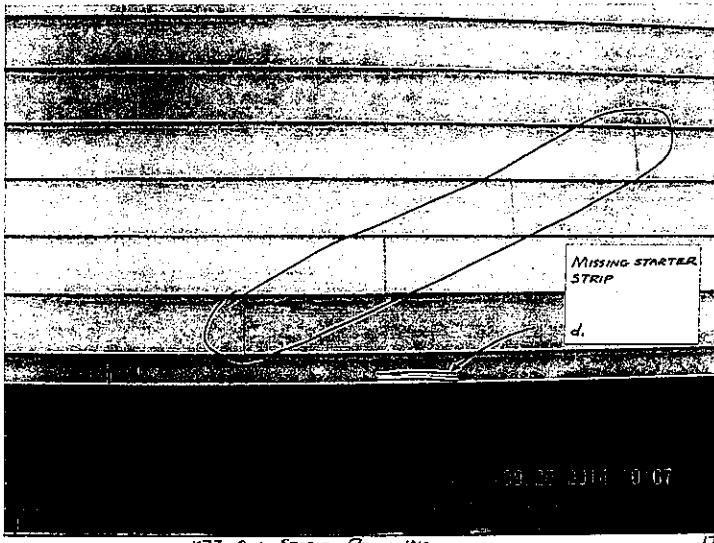


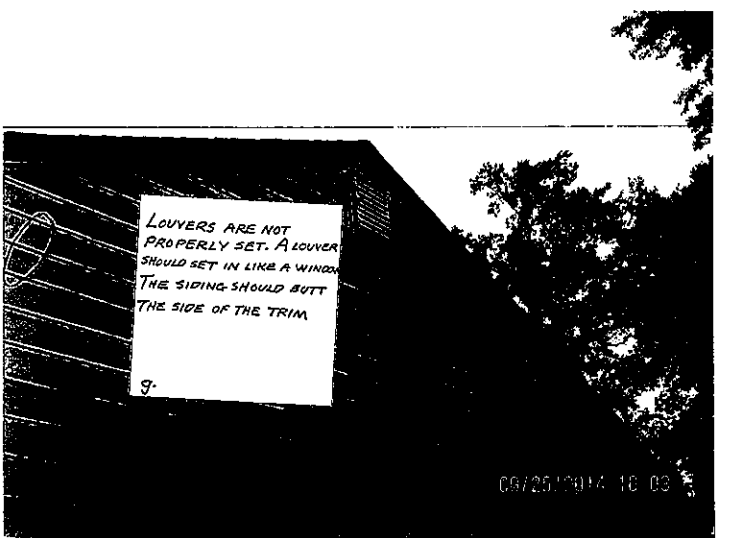
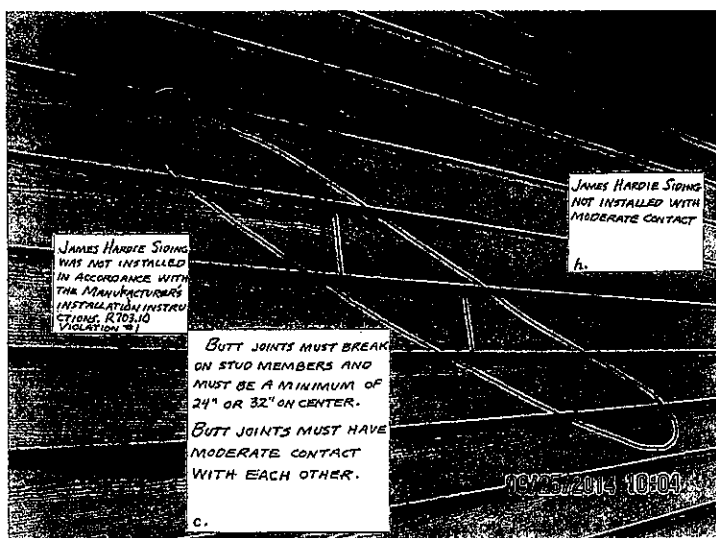
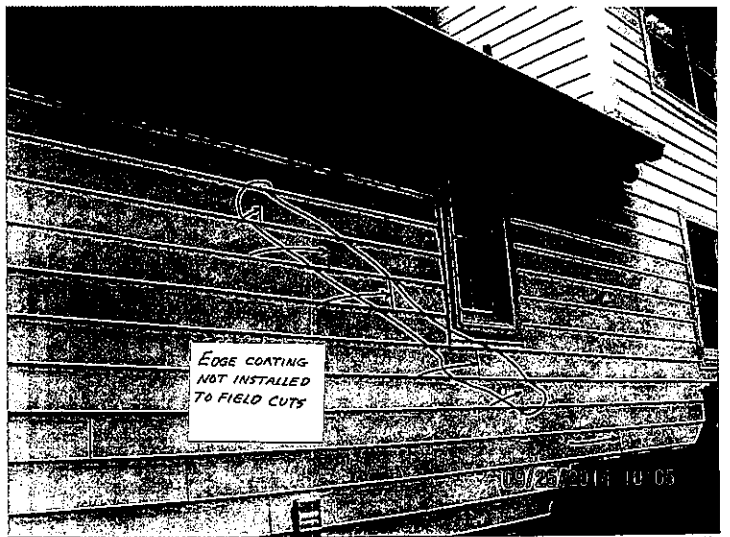
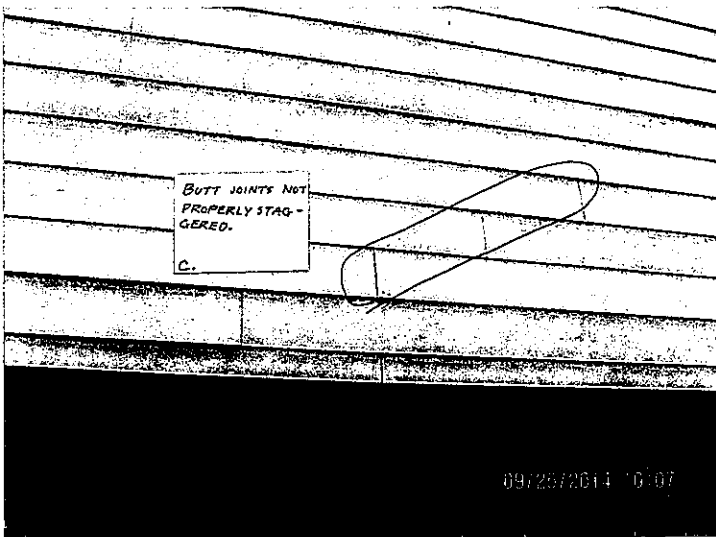
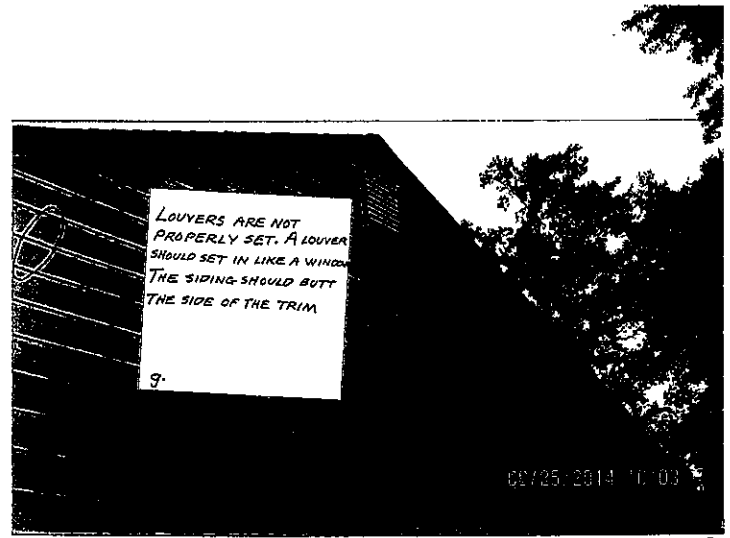
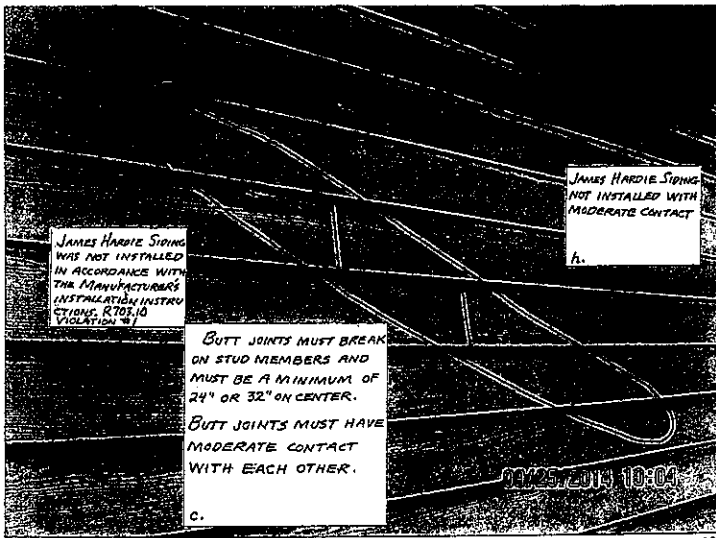


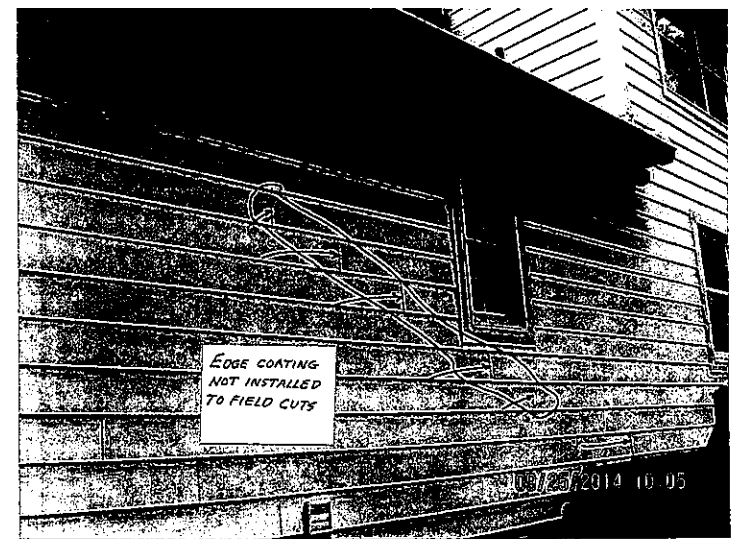
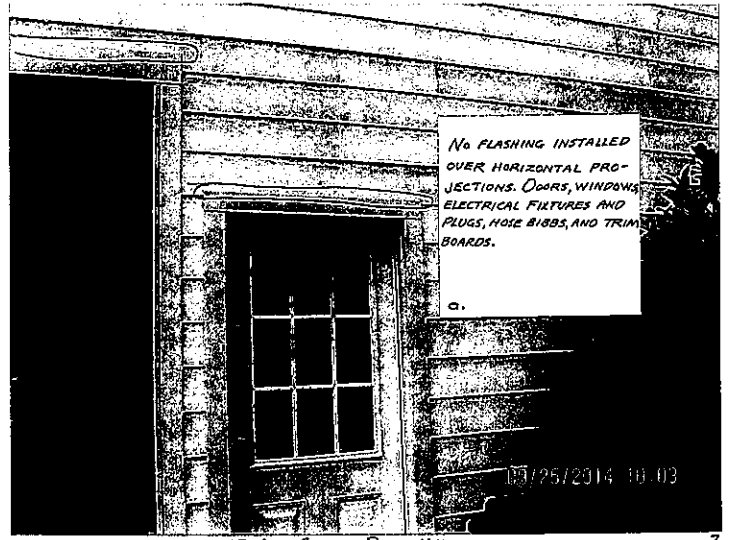
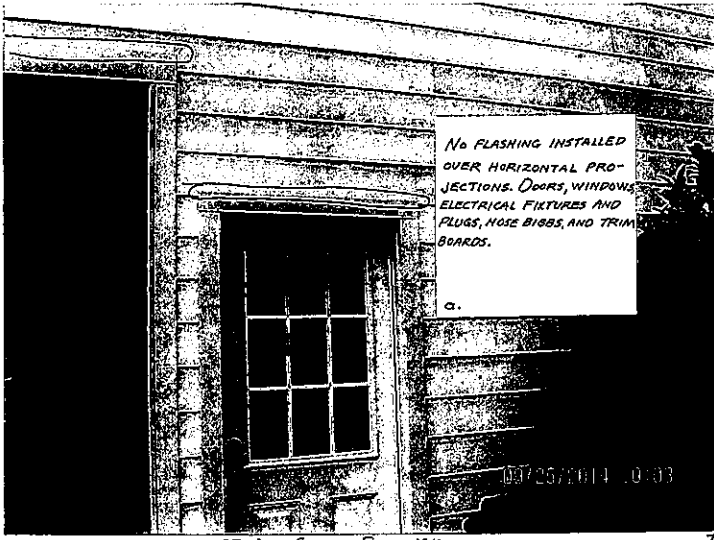
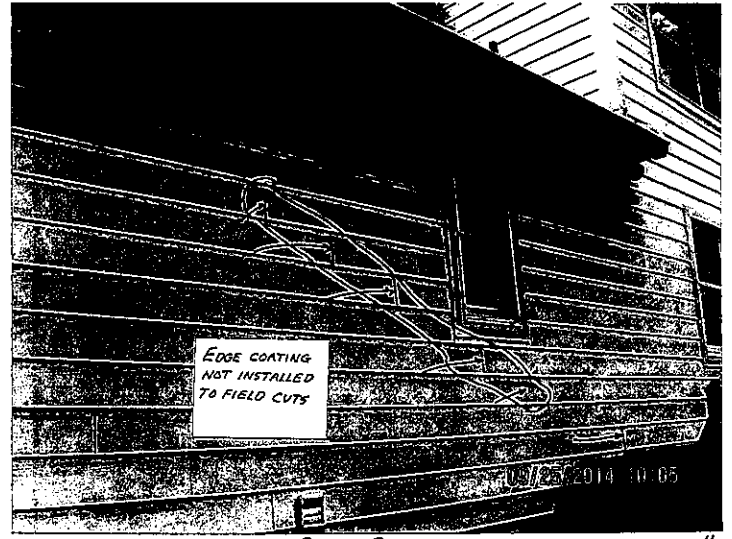
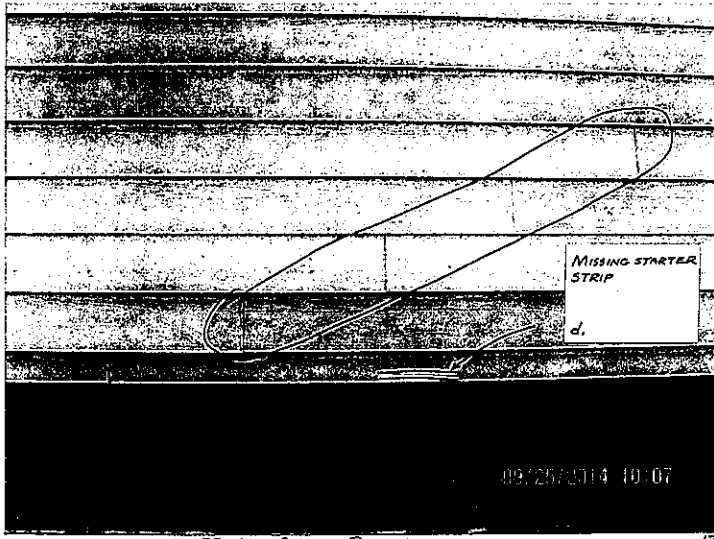


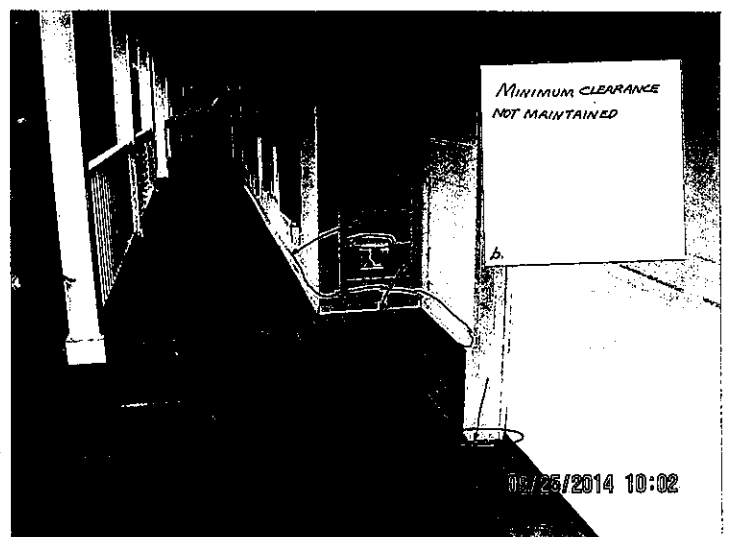
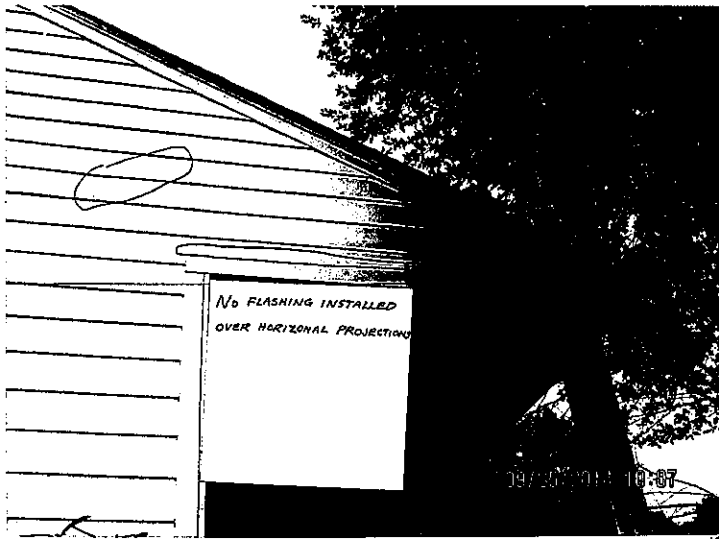
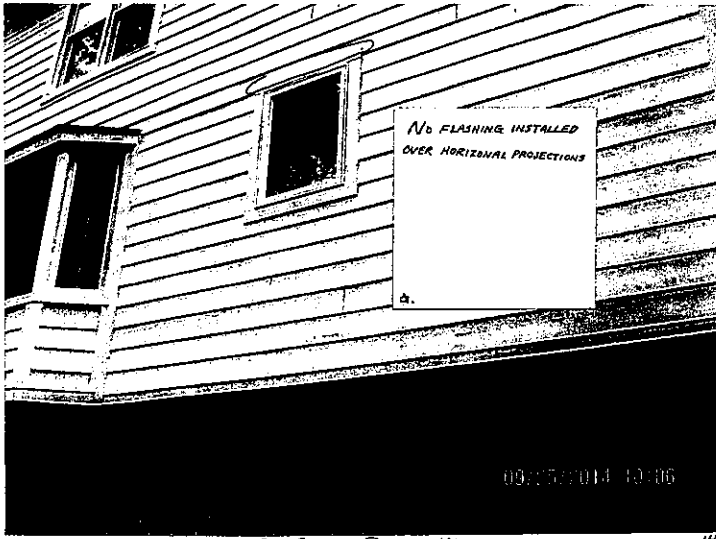


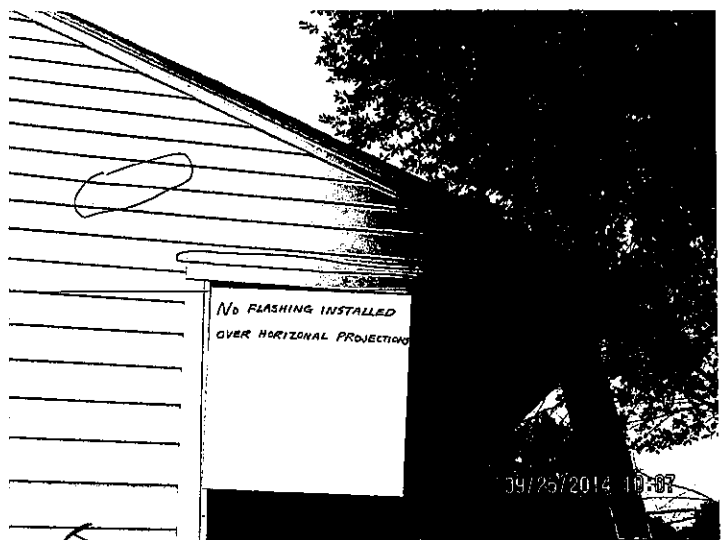
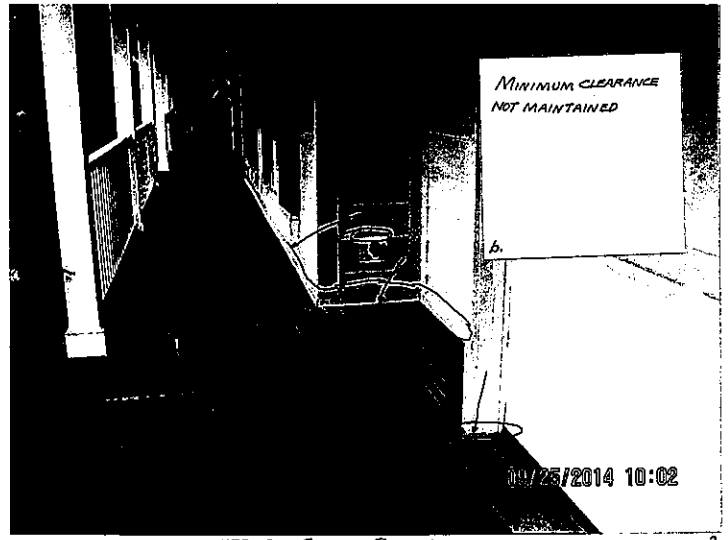
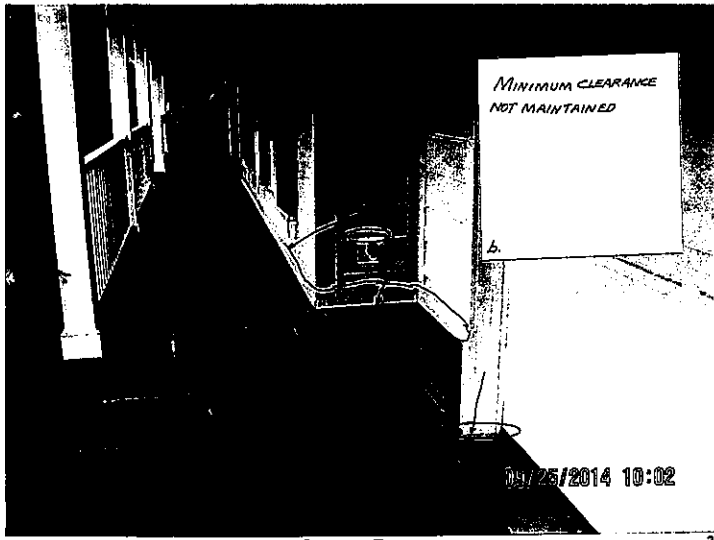


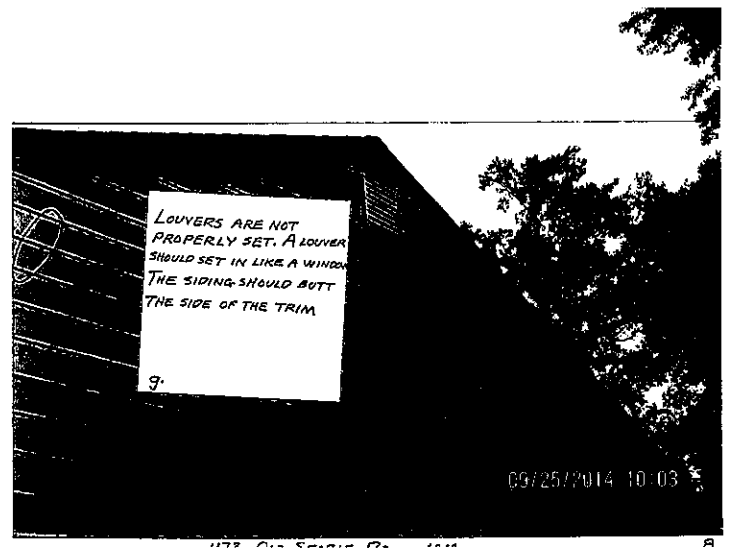
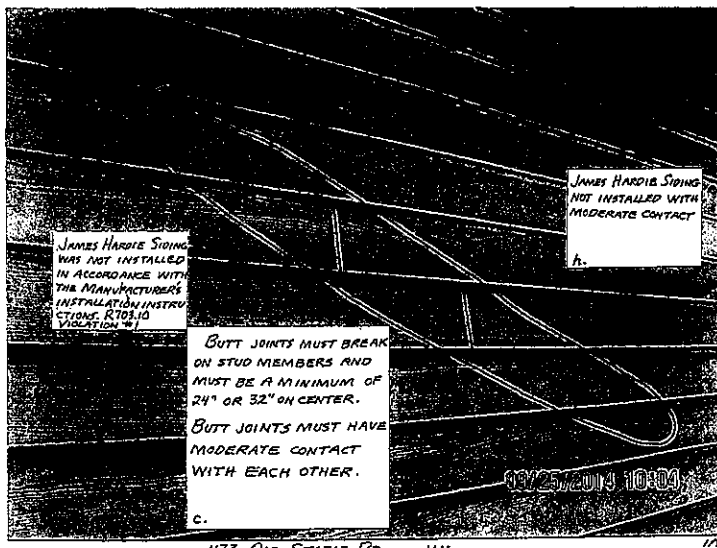
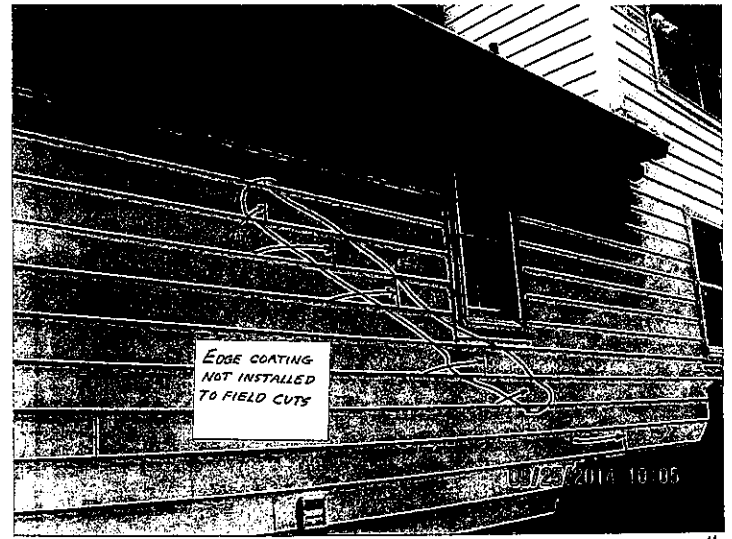
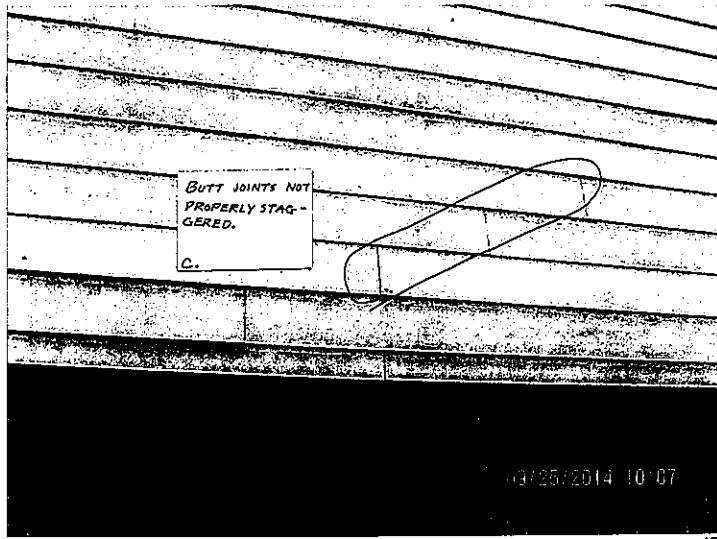












**ADDITIONAL
DOCUMENTS SUBMITTED
BY DRAPER**

STARR CONSTRUCTION

Frank & Evelina Draper
1173 Old Stable Road
McLean, VA 22102

CONTRACT

This contract is entered into this 11th day of May between Starr Construction (the Company) and Frank and Evelina Draper (herein known as the "Owners") for the specified remodeling work to be performed on the residence located at 1173 Old Stable Road, McLean, VA 22102.

A. Contract Documents

The Contract Documents consist of this Contract together with the following and all addenda thereto:

- | | | |
|----|-----------------------|------------|
| 1. | Specifications | Appendix A |
| 2. | Warranty | Appendix B |
| 3. | Compensation Schedule | Appendix C |

These documents form the Contract and are as fully a part of the Contract as if incorporated herein.

B. Description of Work

The price set forth below includes ONLY the work described below, and any work discussed but not listed herein is NOT a part of this Contract.

1. **General Description:** The Company shall perform the following work per plans:
Install new specified Anderson Windows and hang new Hardie Plank siding
2. **Specifications:** The windows and siding will be installed per Vendor guidelines and to the applicable building codes.
3. **General Conditions:**
 - a. **Permitting:** This Contract subject to the issuance of any and all permits from the

7337 Wickford Drive, Alexandria, VA 22315 (703)921-0685

County of Fairfax necessary for the performance of the construction work specified in the Contract Documents. The Owners shall bear any and all increased costs resulting from any code changes or other changes in regulatory requirements imposed by the governmental authorities that become effective and are applied to the Project at any time after the date of Contract. The Owners will be responsible for and will be billed separately for the cost of the building permit(s).

b. **Utility Charges:** All electric, power, gas, water, or other utility company charges are to be paid for directly by the Owners. Any and all charges levied by the local WSSC and/or local Government agencies for additional sewer or fixture use shall be borne by the owners.

c. **Job Condition:** Construction debris shall be removed from site, and job left "broom clean." All materials delivered onsite, but not used in construction are and shall remain the property of the Company and shall be removed from the job site. Unless otherwise agreed in writing by the parties any and all materials scheduled for removal and or replacement shall be treated as construction debris and removed from the site by the Company.

d. **Material Movement:** The Company shall *not* be held responsible for damage to driveway, walks, lawns, shrub or vegetation by movement of men or materials, unless caused by negligence of the Company. It shall be the Owners' responsibility to remove any and all personal objects from the areas under construction prior to the commencement of construction. The Company shall not be held liable for accidental damage to or breakage of personal effects of the Owners, unless caused by the negligence of the Company. In the event of any such damage caused by the negligence of the Company, the Owners shall report said damage in writing within One week of the occurrence. The Company may, in its discretion, assist Owners in moving furniture, etc., under the direction of the Owners, but shall incur no liability for damage during such moving operations.

e. **Pre-Existing Conditions:**

(1) **General Provisions:** This Proposal/Contract assumes that there are no pre-existing code violations or hidden and materially adverse conditions present in the existing areas affected by the Project. The cost of addressing any such condition is not included in this Proposal/Contract, but may be negotiated separately, by Change Order.

(2) **Rotten Wood:** This Contract does not include the replacement and/or repair of any rotten wood if found in the existing areas to be painted and/or re-roofed. If the Company finds any such rotten wood, the Company shall inform the Owners and any corrective work may be negotiated separately, by Change Order.

THE CORRECTIONS OF ANY AND ALL OF THE ABOVE PRE-EXISTING CONDITIONS IS NOT INCLUDED IN THE PRICE OF THIS CONTRACT.

f. **Matching Existing Materials and Detail:** Any attempts by the Company to match

 / _____

7337 Wickford Drive, Alexandria, VA 22315 (703)921-0685

existing materials and/or finishes are acknowledged to be approximate in nature. The Owners expressly agree and acknowledge that all materials and/or details shall be matched, as practical, from existing stock and/or stock available through the Company's usual suppliers, and that the match will be imperfect. No custom materials and/or custom milled materials are contemplated unless specifically provided for in this Contract.

g. **Exclusive Access:** The Owners agree that during the course of this Contract no other Contractors, except for service and repair work, shall be allowed access to the premises, unless otherwise specifically agreed in writing between the Company and the Owners.

h. **Damage by Water, Fire, Act of God, or other Casualty:** Owners shall maintain homeowner's insurance policy to cover the risks described herein. The risk of loss or damages to the Project, including damage to any and all materials delivered, but not yet installed, by water, fire, Act of God or other casualty shall be borne exclusively by Owners. The Company shall exercise reasonable care to protect the Owners' property from water damage; however, the Company disclaims liability for any and all water damage, except as may be caused by the negligence of the Company

i. **Attendant Damage:** It is understood that the ceiling and walls of the rooms adjacent to construction may require drywall repair and that any drywall repair necessitated by the construction will be undertaken by the Company and that **any painting and/or wallpapering will be the responsibility of the Owners**. The Company shall **not be liable** for damage to adjacent areas other than **drywall repair**, unless caused by the negligence of the Company.

j. **Damaged to Pre-Occupied Areas:** In the event that the Owners take possession and/or take over any portion of the project prior to completion of the job, and in the event that damage occurs to said portion of the job, the Owners shall bear responsibility for said damage unless caused by the negligence of the Company. In the event that said damage is caused by the negligence of the Company, the Owners must notify the Company in writing within 24 hours of the occurrence.

k. **Owner Provided Items:** The Company does not warrant that any items designated to be reused will survive removal and/or will be reusable. In the event replacement and/or repair is required, the cost of replacing any such item shall be borne by the Owners. The Company is not responsible, in any way, for any Owner Provided items that arrive to job site damaged. Homeowner is responsible for returns and/or exchanges for any Owner Provided items.

C. **Compensation:** In compensation for the above-described work, the Owners agree to pay the Company the total sum of forty four thousand nine hundred thirty eight dollars and 02/100 (\$44,938.02) according to the payment schedule attached hereto as Appendix C.

D. **Schedule:** Construction shall begin, approximately, July 9, 2012 (we will be out of town from June 15 – 25.) unless there are some unforeseen circumstances or there is a delay in window/siding delivery. Once begun, construction shall continue without significant unnecessary interruption until completion in

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order to minimize inconvenience to the Owners and will take approximately five (5) weeks. The Company shall undertake to keep a Starr Construction crew appropriate to the stage of construction employed on the job forty (40) hours per week as possible. The Company shall bear no responsibility for delays due to unavailability of materials, unanticipated public utility requirements outside the control of the Contractor, unanticipated labor walkouts, weather conditions, governmental orders, Change Orders, acts of God or any other causes beyond the control of the Company. Change Orders may delay the estimated completion time. The company will work with Owner to minimize dislocation during construction.

E Warranty: All workmanship is under warranty for one full year from the date of substantial completion, as defined in Warranty Policy Paragraph 2. The Company provides no warranty for windows siding, lighting fixtures and other materials of any kind for which a manufacturers' warranty is provided; the terms of the manufacturer's warranty will be provided by the Owner and installed by the Company, the warranty extends on only to defects in the installation resulting from the negligence of the Company.

This warranty is null and void in the event that the Owners unreasonably withhold payments due under this Contract.

Starr Construction shall bear no liability in the event that the Owners employ any other contractor to perform work covered by warranty.

F Change Order Policy:


1. Client Initiated Change Order

Any work requested that is not covered in this Contract must be requested through Bob or Cindy and will be handled by a Contract Change Order signed by both parties. Only one signature form each respective party shall be necessary to execute a Change Order and the balance will be due upon ratification.

2. Delays:

Client initiated Change Orders may add cost, disrupt the flow of work and delay the completion date of the job.

G. Governing Law; Entire Contract: This Contract shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia. This Contract and the Contract Documents attached hereto constitute the entire understanding of the parties, no other understanding, collateral or otherwise, shall be binding on the heirs, executors, administrators and successors and assigns of the Owners. The Owners shall reimburse any cost incurred in the collection of payments under this Contract that are unreasonably withheld by the Owners, to the Company.


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H **Professional Identification:** Starr Construction, Inc. currently holds a Commonwealth of Virginia, Class A Contractors License, # 2705 053948A

I **Insurance:** The Company maintains a \$1 million insurance policy through Virginia Mutual Insurance Company in addition to all required general liability and auto insurance.

J **Resolution of Design, Construction and Specification Issues:** The Company reserves the right to make such non-substantive (legally non-material) deviations in the plans and specifications as becomes necessary, in the opinion of the Company, due to site or job conditions, after consultation with the Owner. In the event that the Company is unable to obtain the exact materials specified on the plans and/or specifications through the Company's ordinary and usual sources of supply within a time frame consistent with the construction schedule, or in the event of supplier or subcontractor bankruptcy and/or default of bid quote, the Company shall have the right to substitute materials or similar design, pattern and quality after consultation with the Owner.

K **Requirements Placed Upon the Owners:** The Company shall place one of the Company locks on existing door for access to the premises during construction and replace the lock with the Owners' lock at the end of construction. The Owners shall provide the Company a telephone for local telephone calls of a business nature. The Owners shall permit and provide space for the Company to display a Company sign. The Owners shall provide restroom facilities to the Company or allow the placing of a portable facility on the job site; if the Owners choose to have portable restroom facilities placed on the job sit, the cost of those facilities shall be billed separately to the Owners and are not included in the price of this Contract. The Owners shall allow the Company to place a garbage dumpster and storage trailer on the job site. The Owners shall permit the Company to take photographs and video for a visual record of the residence and the Project.



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Note: THE OWNER SHALL NOT SIGN THIS CONTRACT IN BLANK. THE OWNER SHALL BE GIVEN A COPY OF THIS CONTRACT, UPON RATIFICATION.

5/30/12
Date

Frank Draper
Frank Draper

5/30/12
Date

Evelina Draper
Evelina Draper

5/11/2012
Date

Robert W. Starr
Robert W. Starr

jcws

**Starr Construction
Appendix "A"**

Specifications

General:

- A. Definitions:
1. SC – Starr Construction, Inc.
 2. BOCA – Building Officials and Code Administration
 3. CABO – Council of American Building Officials
 4. MEACAPFCSS – Match existing as close as practical from Company's standard stock.
 5. OAESBC – Or as equal substitution by Company
 6. NIC – Not in Proposal/Contract
 7. OPCI – Owner provided Company installed.
- B. Dimensions: Frame walls indicate rough framing (face of stud to face of stud) unless otherwise noted. Written dimensions on these drawings take precedence over scaled dimension
- C. Codes: SC shall be responsible for ensuring all work is in accordance with all applicable state, local, and national codes and ordinances.
- D. Existing Structural Integrity: These drawings neither approve nor imply the structural integrity of the existing conditions, such being solely the responsibility of the Owner(s).
- E. Installation Methods: New fixtures, fittings, finishes, miscellaneous products, appliances, electrical, and mechanical equipment shall be installed as per the manufacturer's instructions and specifications.
- F. Cleaning: All debris and demolished materials are to be removed from the site at frequent intervals and/or placed in a site dumpster provided by the Company. Location of dumpster shall be approved by Owner(s). Area of construction shall be broom swept daily.
- G. Material Storage: All materials shall be delivered, stored, and handled to prevent inclusion of foreign materials or damages by breakage. Whenever possible, materials shall be kept in original packages until ready to use.
- H. Owner Provided Items: The Company assumes no liability for damage to any items provided by the Owner(s), including, but not limited to scratches, chipping, etc., that may occur during storage, delivery, installation or otherwise during the course of the construction process, unless caused by the negligence of the Company, including any such items provided by the Owners(s) and installed by the Company.

KWS , _____

- l. Alternates: Items indicated as alternate are for pricing purposes only and not part of the base Contract.

Rough Carpentry

- Comply with NFPA Manual for house Construction, latest edition.
- Spruce-pine-fir # 2 structural unless other wise noted.

Millwork:

- Interior mouldings:
 - Door casing – MEACAPFCSS
 - Base moulding – MEACAPFCSS – unless otherwise specified
- Drywall finish shall be deemed acceptable when a blemish is deemed non-objectionable by a reasonable third party when viewed, under normal daylight conditions, from a distance of 8 feet.

Paint:

- Owner is responsible for wall paper, priming & painting

Electric:

- Outlets per code
- Provide Switches – Per plans

OPCI – Owner provided Contractor installed

Siding & Trim:

- Remove all old siding and trim from exterior of house
- Repair plywood as needed - \$65.00 per sheet
- All areas that will have new siding and trim will be wrapped with Tyvek.
- All Tyvek seams will be taped with recommended Tyvek tape
- All fascia will be replaced with 1 x 6 PVC
- All fascia will be screwed to existing house framing with 2 ½" galvanized screws
- A PVC bedmoulding detail will be installed under all soffits
- All soffits will be Hardie soffit in arctic white Hardie siding with PVC crown detail.
- Trim will be 5/4 x 4 Hardie trim in arctic white at all corners, soffits and along brick sill, doorways and windows.
- All rakes will be 5/4 x 6 Hardie trim with PVC rake detail.
- A 5/4 x 4 Hardie trim freeze board will also be installed under all soffits and rakes
- All siding and trim will be caulked with OSI caulking, color to match siding and trim.
- Install Hardie Plank, Artic White, Cedarmill standard stock, 8 ¼" siding
- All Hardie siding "butt end" seams will be flashed, but not caulked per Hardie Siding installment requirements.

- ✚ No additional OSI caulking has been included for the butt end seams. If caulking is requested by homeowner, additional charges may be assessed for caulking and no warranty will be provided for any "butt end" seam issues. Once caulking has been applied to "butt end" seams, caulking cannot be removed or changed. _____/_____

Windows:

- Install 12 proposed windows, see attached, in the back bedroom, front end bedroom, front bathroom, middle bedroom, front foyer, front family room, front living room, back dining room, back family room, laundry room and garage. **Window allowance - \$ 6,438.02**
- Install new interior trim from Company's standard stock to match existing windows as close as possible. Any change of material, from the standard company stock, for custom wood work will result in additional charges

Homeowner will be billed for any charges that are greater than the above and a credit will be issued for any amount below allowances

**Starr Construction
Appendix "B"**

Warranty Policy

Starr Construction HEREBY PROVIDES the following warranty for work performed on the residence of Frank and Evelina Draper, 1173 Old Stable Road, McLean, VA 22102, pursuant to the remodeling Contract dated May 11, 2012.

1. Warranty Terms

All workmanship is under warranty for one full year from the date of final payment for the completion of the remodeling project. **All items are installed per Vendor Specifications and Starr Construction will not Warranty workmanship if homeowner requests, in writing, for Starr Construction to deviate from specifications.** The Company provides no warranty for any OPCI items, siding, window, lighting fixtures and other materials of any kind for which a manufacturer's warranty is provided; the terms of the manufacturer's warranty will be provided to the Owner, and the Company shall have no additional liability.

2. Performance of Warranty Work by Company

It is in the nature of construction that minor shrinkage, drying, and settlement of lumber and other construction material is normal and inevitable, and may result in minor cracking, nail pops, and other cosmetic inconveniences that appear after the completion of the Project.

Any defect, which is covered by this warranty, shall be corrected along with other ordinary warranty work, according to the Company's warranty schedule, after the job is completed and final payment, made. Note: Final payment under the Contract shall not be withheld for items, which were, sound at the time of installation but may require warranty work.

The Company shall service the warranty according to the following schedule: between 30 and 60 days after the date of final payment, or at the time of final stabilization (in order to avoid repeated trips for materials which have not yet stabilized) the Company and the Owner shall agree on a warranty punch list of items requiring correction under the terms of the warranty. The Company shall schedule the warranty work in such a way as to concentrate as much of the list as possible and avoid repeat trips to the site.

After the completion of the work items on the initial warranty punch list, any other warranty work shall be addressed on an as needed basis.

The Owner shall inform the Company promptly of any work required to prevent water

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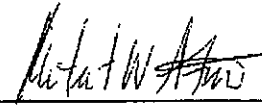
infiltration or other warranty work of an emergency nature. Such work will be given priority scheduling.


Warranty work shall be performed at the sole expense of Starr Construction. Starr Construction shall bear no liability in the event that the Owners employ any other contractor to perform work covered by this warranty.

3. **Manufacturer's Warranty**

Upon receipt of the final project payment, the Company will provide the Owner with any information that may be in its possession relating to manufacturer's warranties. Any work covered by such a manufacturer's warranty that may be required shall be dealt with directly between the Owner and the manufacturer, except that, the Company, as a courtesy, may coordinate requests for manufacturer's service.

5/11/2012
Date


Robert W. Starr



7337 Wickford Drive, Alexandria, VA 22315 (703)921-0685

Starr Construction, Inc.
Appendix "C"

Compensation Schedule

This appendix C entered into as a part of the Remodeling Contract (the "Contract") dated this same date between Starr Construction (the "Company") and Frank and Evelina Draper (the "Owners") for the specified remodeling work to be performed on the residence located at 1173 Old Stable Road, McLean, VA 22102. This Appendix C forms a part of the Contract and is fully a part of the Contract as if incorporated herein.

In compensation for the above-described work, the Owners agree to pay to the Company the total sum of forty four thousand nine hundred thirty eight and 02/100 (~~\$44,938.02~~) according to the following payment schedule:

Initial Project Payment: An initial Project Payment is (~~\$21,500.00~~) If any payments are with held for more than three (3) business days from invoice date, it could result in a work delay

- Six thousand five hundred and 00/100 (~~\$6,500.00~~) Windows
- Fifteen thousand and 00/100 (~~\$15,000.00~~) Hardy plank siding

Progress Payments

Windows/Siding

- a. A payment of five thousand four hundred eighty four dollars and 51/100 (~~\$5,484.51~~) shall be due and payable upon substantial completion of one (1) side with hardy plank siding and window install. ^{PA}
- b. A payment of five thousand four hundred eighty four dollars and 51/100 (~~\$5,484.51~~) shall be due and payable upon substantial completion of one (1) side with hardy plank siding and window install. ^{PA}
- c. A payment of five thousand four hundred eighty four dollars and 51/100 (~~\$5,484.51~~) shall be due and payable upon substantial completion of one (1) side with hardy plank siding and window install. ^{PA}
- d. A payment of five thousand four hundred eighty four dollars and 51/100 (~~\$5,484.51~~) shall be due and payable upon substantial completion of one (1) side with hardy plank siding and window install

A payment of one thousand five hundred dollars and 00/100 (~~\$1,500.00~~) shall be due and payable upon substantial completion of the Project.

3. The balance of the total sums less the hold back amount shall be due and payable at the punch list walk through.

Note: Substantial completion of the Company's work shall be the date when construction is

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sufficiently complete in accordance with this Contract so that the Project is ready for the use for which it is intended.

4. **Punch List Draw:** At the time the Final Item Payment is due, the Owners and the Company shall complete a Punch List of Work to be completed on a form provided by the Company. The Owners shall be entitled to hold back an amount equal to two (2) times the cost to the Company of completing and/or correcting each item on the Punch List, the sum of these shall be referred to as the "Holdback Amount". On the date the Punch List is signed by the Owners and the Company, the Owners shall pay the Company the balance due less the Holdback Amount. On any items where Starr Construction, Inc. passes on the direct cost to homeowner, there will be no Holdback Amount for any items not installed when the Final Payment is due.

The Owners shall pay the Company the Holdback Amount due for each item on the Punch List upon the completion of each such item on the Punch List.

Note: Any defect which is covered by warranty and which appears after the final Punch List has been prepared but before the final payment under the Contract shall be corrected along with ordinary warranty work. Final payment under the Contract shall not be withheld for items which were sound at the time of installation but may require warranty work.

Note: In the event that onsite conditions necessitate the performance of work out of the above draw schedule, the Company may make reasonable substitutions from subsequent draws in order that the full amount of the draw shall be paid by the Owners; such substitutions shall be subject to the approval of the Owners, which approval shall not be unreasonably withheld.

How the issues came to our attention

My wife and I contracted Starr Construction, Inc. ("SC") to install the James Hardie ColorPlus lap siding and trim with Azek PVC fascia and molding, new construction Anderson windows, Azek PVC wainscoting beadboard on the front porch ceiling, and other miscellaneous items. The entire exterior project was completed at the end of August 2012.

Around September 2012, we began to notice significant contraction (almost ½") with the Azek wainscoting PVC beadboard that was installed by SC on the front porch ceiling (See Issue #14 below). We brought this issue to the attention of SC. SC suggested that the significant contraction may be due to a product issue and that SC would contact Azek to try to determine the exact cause of the contraction. We waited until December and brought the issue up again with SC who still had not contacted Azek. At that time, it became clear to us that SC was not willing to help us in resolving this issue, so we submitted a complaint form to Azek on Jan 16, 2013. After several discussions with an Azek representative and reviewing the Azek installation guidelines, we learned that the Azek PVC beadboard was not installed in accordance with Azek's Installation Guidelines (See Section 8 in the binder). We then emailed SC on March 10th and requested them to refund the total cost of the Azek beadboard project (\$4,500) based on 2 estimates that we received from 2 Azek recommended contractors to re-install the Azek beadboard in accordance with Azek guidelines and good building practices. SC refused to refund my money but offered to fix certain installation errors for additional money.

Once we knew that the Azek beadboard was improperly installed by SC and after analyzing SC's responses related to the issues with the Azek beadboard, we began to have serious concerns regarding SC's performance on the entire exterior project, specifically the installation of the James Hardie lap siding and trim and the Azek fascia and crown molding. We obtained the James Hardie specifications for installing lap siding and trim. Based on our review of the James Hardie installation specifications, we realized that our concerns were warranted.

We then contacted James Hardie to ask them if their local representative would inspect our exterior project. At first, they could not guarantee an inspection but recommended that we contact one of James Hardie's preferred vendors/installers in the Northern Virginia area: Preferred Siding, Colonial Remodeling, or Winn Design. We contacted all 3 companies. Preferred Siding performed 2 physical inspections and Colonial remodeling performed one physical inspection. The local James Hardie representative also performed 2 physical inspections of our exterior project, one of which was in conjunction with a Preferred Siding inspection. We then submitted all the issues identified by James Hardie (including James Hardie's corrective work order), Preferred Siding and Colonial Remodeling to Fairfax County who then issued their own Corrective Work Order to Starr Construction.

Issue with the Installation of the Azek Wainscoting PVC Beadboard

The Azek Wainscoting PVC Beadboard on the front porch was not installed properly, resulting in significant contraction/expansion and bowing of the boards throughout the porch ceiling.

We had several discussions with an Azek representative regarding 1) the contraction at the ends of the beadboards and 2) the bowing of the beadboards throughout the porch ceiling. I provided the information that Azek requested regarding the spanning, use of a backer (OSB or plywood), and the use of an adhesive. Based on the information I provided to Azek and their review of photos of the installation, Azek concluded that the contraction and bowing of the beadboards was not a product issue but a result of the SC's installation of the ½" Azek PVC beadboards NOT being in accordance with Azek's guidelines. The guidelines specifically state:

- Azek material should be installed over a solid backing.
- When using ½ Azek Beadboard, use 12" OC framing as well as a high quality construction grade polyurethane adhesive on joints.
- For spans greater than 12" OC, use 5/8" Azek beadboard or use a minimum ½" backer such as plywood or OSB with construction adhesive and mechanical fastening a minimum of every 16". Fasteners should hit joists or framing when possible.
- For spans greater than 16" OC, use a minimum ½" backer such as plywood or OSB with construction grade adhesive and mechanical fastening a minimum of every 16". Fasteners should hit joists or framing when possible.
- Never span AZEK products more than 16" without utilizing instructions above. Proper fastening will help reduce the possibility of excessive movement from expansion and contraction.
- Glue all AZEK-to-AZEK joints with AZEK adhesive to prevent joint separation. The glue joint should be secured with a fastener and/or fastened on each side of the joint to allow adequate bonding time. In addition, scarf joints are recommended.
- Staples, small brads, and wire nails must not be used.
- With all Beadboard and Trim ceiling and soffit installations, follow good building practices.

Based on 4 physical inspections of the porch ceiling with 2 Azek recommended contractors and 2 James Hardie recommended contractors ("4 Recommend Contractors") and my discussions with the Azek representative, Azek's guidelines were not followed. SC installed the Azek beadboard over the existing drywall. The drywall should have been removed and a ½" plywood or OSB backer should have been installed on the rafters. Also, per SC's installation, the butt ends of the installed beadboards are 16" apart and my ceiling rafters are 24" OC. This means that the ends of the boards are not fastened to a ceiling rafter. I confirmed the rafter spacing was 24" OC for a portion of the porch ceiling that is accessible through the garage attic. The remaining portion is not accessible. For installing ½" PVC beadboard on framing 12" OC or greater, a ½" backer should have been used in conjunction with a construction grade adhesive. SC did not use a construction grade adhesive on the backs and ends of the beadboards. The Azek guidelines also state, for best results, whenever possible, always use scarf joints instead of butt joints. The diagrams per the Azek guidelines also note using scarf joints vs. butt joints. SC did not use scarf joints at all. Now that the Azek beadboards are separating from the front porch

State Building Code Technical Review Board
Appeal No. 15-6

ceiling, I discovered that the beadboards were installed with staples and wire nails (see attached pictures). The guidelines specifically state not to use staples or wire nails as fasteners for Azek beadboards.

The reason the beadboard project was not included in the original contract with SC, dated May 11, 2012, was because we did not originally intend to replace the porch ceiling. However, Starr Construction suggested and highly recommended expanding the project to install the Azek wainscoting PVC beadboard on the porch ceiling. After reviewing SC's quote for this additional item, we were able to include it in our budget.

Summary

Starr Construction has misrepresented the events by stating that we agreed to all deviations from the manufacturer's installation specifications. The only deviation that was discussed was related to caulking the butt joint seams. As required by our contract with Starr Construction, all deviations from vendor specifications must be documented in writing, as such the caulking of the butt joint seams was the only issue discussed and documented in the contract. The initial contract was revised to included language regarding caulking butt joint seams. We did not request, agree to, or were aware of any other deviation to the manufacturer's specifications. The Hardie Plank Installation Specialist who performed physical inspections informed us that many of these deviations voids our product warranty with James Hardie and could impact the product's performance. Additionally, the Azek beadboards are now separating from the porch ceiling, causing safety concerns. Based on the number and severity of the deviations from the manufacturer's installation specifications, we believe that Starr Construction is not knowledgeable about Hardie Plank siding/trim or Azek beadboard nor is Starr Construction qualified to install these products. We would like to thank the Review Board for hearing this appeal.



Installation Guidelines for AZEK Trim and AZEK Moulding



**AZEK® Trim is the #1 brand of trim.
AZEK products are the perfect replacement for wood in
all non-stress and non-load bearing applications.**

These guidelines cover the general installation recommendations for AZEK Trim and AZEK Moulding. See specific installation information for Universal Skirt Board, Integrated Drip Edge, Rabbeted Cornerboard, Finish Grade Trim, Water Table, and Garage Door Thermostop.

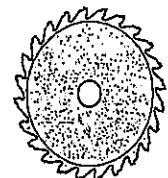
- AZEK Trim and AZEK Mouldings should be installed using the same good building principles used to install wood or composite trim and mouldings and in accordance with the local building codes and the installation guidelines included below. AZEK Building Products Inc. accepts no liability or responsibility for the improper installation of this product.
- AZEK Trim and AZEK Moulding may not be suitable for every application and it is the sole responsibility of the installer to be sure that AZEK Trim and Mouldings are fit for the intended use. Since all installations are unique, it is also the installer's responsibility to determine specific requirements in regards to each trim application.
- AZEK Building Products recommends that all applications be reviewed by a licensed architect, engineer or local building official before installation. If you have any questions or need further assistance, please call AZEK Customer Service at 877-ASK-AZEK (877-275-2935) or visit our website at www.azek.com.

Storage & Handling

- Store AZEK Trim products on a flat and level surface.
- Since AZEK Trim products are more flexible than wood, they may conform to uneven surfaces. Ensure that storage areas, as well as all framing and substructures, are flat and level to minimize uneven surfaces.
- AZEK Trim products have a density comparable to pine and should be handled in a fashion as pine would be handled to avoid damage.
- Units of AZEK products are shipped from the manufacturer in a protective covering. If covering has been removed, take care to keep product free of dirt and debris at jobsite. If product gets dirty, clean after installation.

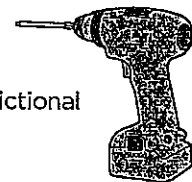
Cutting

- AZEK products can be cut using the same tools used to cut lumber.
- Carbide tipped blades designed to cut wood work well. Avoid using fine tooth metal cutting blades.
- Rough edges from cutting may be caused by excessive friction, poor board support, or worn or improper tooling.



Drilling

- AZEK products can be drilled using the same tools used to drill lumber.
- Drilling AZEK products is similar to drilling a hardwood. Care should be taken to avoid frictional heat build-up.
- Periodic removal of AZEK shavings from the drill hole may be necessary.





Installation Guidelines for AZEK Trim and AZEK Moulding

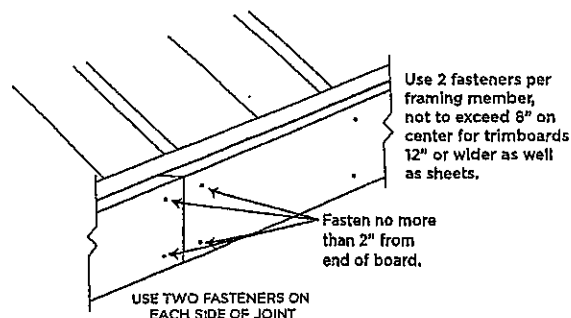


Routing

- AZEK products can be routed using standard router bits and the same tools used to rout lumber.
- Carbide tipped router bits are recommended.
- Routing AZEK products provides a crisp, clean edge.

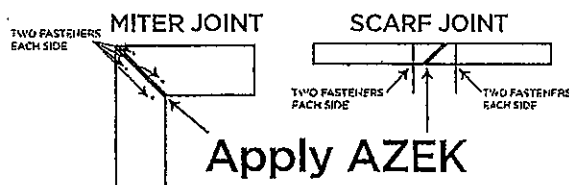
Fastening

- For best results, use fasteners designed for wood trim and wood siding. These fasteners have a thinner shank, blunt point, and full round head.
- A #8 trim screw may be used and works well with AZEK Trim products.
- To take advantage of the performance of AZEK products, use a highly durable fastener such as stainless steel or hot dipped galvanized.
- Staples, small brads, and wire nails must not be used.
- The fasteners should be long enough to penetrate the solid wood substrate a minimum of 1 1/4".
- Standard nail guns work well with AZEK Trim products. If using pneumatic tools, the air pressure should be regulated so fasteners slightly penetrate the surface.
- Like wood, use 2 fasteners per every framing member for trimboard applications. Trimboards 12" or wider, as well as sheets, will require additional fasteners, not to exceed 8" on center. See illustration below.
- Fasteners must be installed within 2" of the end of each board. See illustration below.
- There must be 2 fasteners on each side of a board joint (scarf, miter, etc.).
- All fasteners must hit a solid framing member.
- AZEK products should be fastened into a flat, solid substrate. Fastening AZEK material into hollow or uneven areas must be avoided.
- Pre-drilling is typically not required unless a large fastener is used or product is installed in low temperatures.
- 3/8" and 1/2" sheet product is not intended to be ripped into trim pieces. These profiles must be glued to a substrate and mechanically fastened.
- AZEK BEADBOARD FASTENING CONSIDERATIONS
(Use one of the following):
 - #7 trim screw
 - 16 gauge T-nail
 - 15 gauge round head (for 1/2" Beadboard only)
 - Fasteners should be a minimum of 1 1/2" in length



Gluing

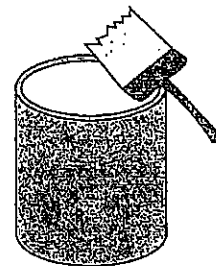
- For best results, glue all AZEK-to-AZEK joints such as window surrounds, long fascia runs, etc., with AZEK Adhesive to prevent joint separation.
- The glue joint should be secured with a fastener and/or fastened on each side of the joint to allow adequate bonding time.
- AZEK Adhesive has a working time of 10 minutes and will be fully cured in 24 hours.
- If standard pvc cements are used, these products typically cure quickly which will result in limited working time and may reduce adhesive strength.
- For best results, surfaces to be glued should be smooth, clean and in complete contact with each other.
- For best results, whenever possible, always use scarf joints instead of butt joints.
- To bond AZEK material to other substrates, various adhesive may be used. Consult adhesive manufacturer to determine suitability.
- Must have 2 fasteners on each side of a board joint (scarf, miter, etc...).



**Apply AZEK
Adhesive Here**

Painting

- AZEK Trim does not require paint for protection, but accepts and holds paint very well.
- If you choose to paint, use a 100% acrylic latex paint with colors having a Light Reflective Value (LRV) of 55 or higher.
- For darker colors (LRV of 54 or lower), use paints specifically formulated for use on vinyl/pvc products such as, but not limited to, Sherwin-Williams VinylSafe® coatings. These paints/coatings are designed to reduce excessive heat gain.
- WARNING: It is recommended that you only use standard VinylSafe® paint colors and do not request a custom blend from the paint manufacturer.
- Follow the paint manufacturer's recommendations for use and compatibility with AZEK Trim and Mouldings.
- AZEK surfaces must be clean, dry, and void of any foreign material such as dirt, oil, grease or other contaminants that may come from normal handling, storage and/or installation prior to painting.
- Moisture cycling is a main reason for paint failure on wood. Since AZEK material absorbs no moisture, paints last longer on AZEK products than it does on wood.
- Since AZEK products have almost no moisture absorption, paints may take longer to cure on AZEK material than on wood. Generally paints on AZEK products will be dry to the touch quickly, but may take up to 30 days to fully cure depending on the humidity and temperature.



100% Acrylic Latex
with LRV 55 or higher.
Use specifically
formulated paints for
darker colors
(LRV 54 or lower).



Installation Guidelines for AZEK Trim and AZEK Moulding



Expansion & Contraction

- AZEK products expand and contract with changes in temperature.
- Properly fastening AZEK material along its entire length will minimize expansion and contraction.
- When properly fastened, allow 1/8" per 18 feet of AZEK product for expansion and contraction. Joints between pieces of AZEK material should be glued to eliminate joint separation. See "Gluing".
- When gaps are glued on a long run of AZEK material, allow expansion and contraction space at ends of the run.
- AZEK Trim should be glued to a substrate and mechanically fastened to help minimize expansion and contraction.
- WARNING: Dark colors may increase movement and expansion and contraction of PVC Trim.

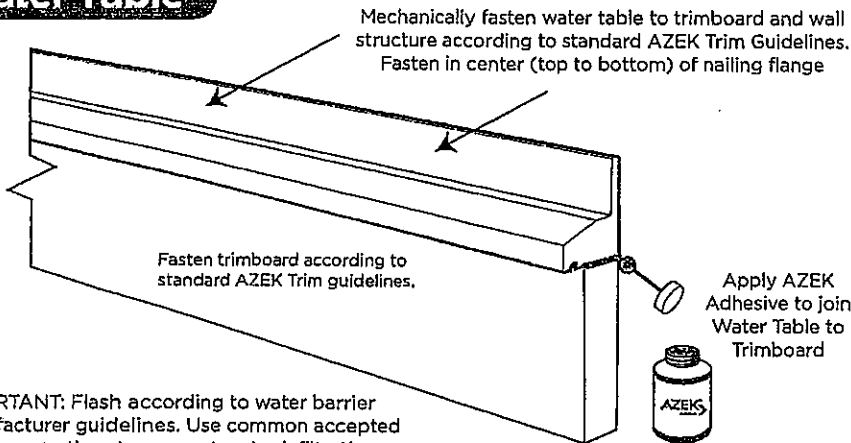
Spanning

- AZEK products must not be used in load bearing applications, but may be used in spanned applications such as fascias, soffits and ceilings. AZEK material should be installed over a solid backing.
- FOR SOFFIT INSTALLATIONS:
 - For spans greater than 16" OC, see below.
 - When using AZEK Beadboard, see considerations below.
- FOR CEILING INSTALLATIONS:
 - For spans greater than 16" OC, see below.
 - If temperature at time of installation is 40°F or below, spans need to be decreased to 12".
 - When using AZEK Beadboard, see consideration below.
- AZEK BEADBOARD SPANNING CONSIDERATION:
 - For both 1/2" and 5/8" AZEK Beadboard, run boards perpendicular to structure when possible to create the shortest possible run of material.
 - When using 1/2" AZEK Beadboard, use 12" OC framing as well as use a high quality construction grade polyurethane adhesive on joists.
 - For spans greater than 12" OC, use 5/8" AZEK Beadboard or use a minimum 1/2" backer such as plywood or OSB with construction grade adhesive and mechanical fastening a minimum of every 8". Fasteners should hit joist or framing when possible.
 - When using 5/8" AZEK Beadboard, use 16" OC framing as well as use a high quality construction grade polyurethane adhesive on joists. For spans greater than 16" OC, see below.
- For spans greater than 16" OC, use a minimum 1/2" backer such as plywood or OSB with construction grade adhesive and mechanical fastening a minimum of every 16". Fasteners should hit joist or framing when possible.
- Never span AZEK products more than 16" without utilizing instructions above. Proper fastening will help reduce the possibility of excessive movement from expansion and contraction.
- With all Beadboard or Trim ceiling and soffit installations, follow good building practices and ensure adequate ventilation is provided.

**AZEK® Trim is the #1 brand of trim.
AZEK products are the perfect replacement for wood in
all non-stress and non-load bearing applications.**

These guidelines cover the general installation recommendations for AZEK Trim and AZEK Moulding. See specific installation information for Universal Skirt Board, Integrated Drip Edge, Rabbeted Cornerboard, Finish Grade Trim, Water Table, and Garage Door Thermostop.

Water Table



IMPORTANT: Flash according to water barrier manufacturer guidelines. Use common accepted building practices to prevent water infiltration.



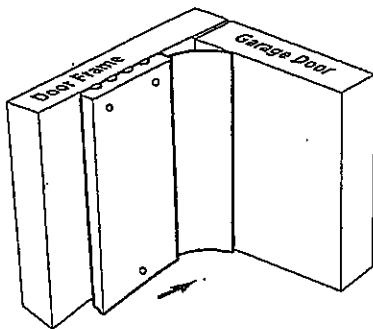
Apply AZEK Adhesive to join Water Table to Trimboard



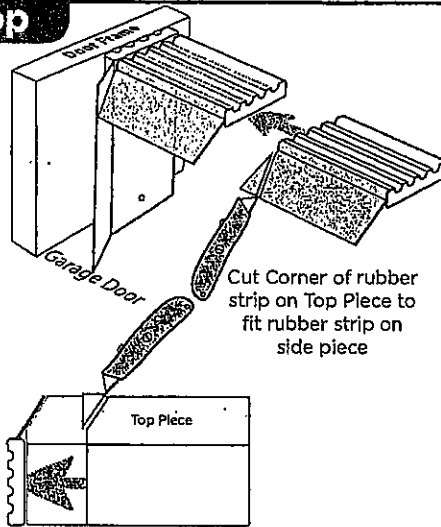
SIZE

- 2 3/4" x 2" in 18' lengths
- 1 1/2" tapered starter strip/nailing flange height
- 3/8" thick starter strip/nailing flange (at its thickest point)

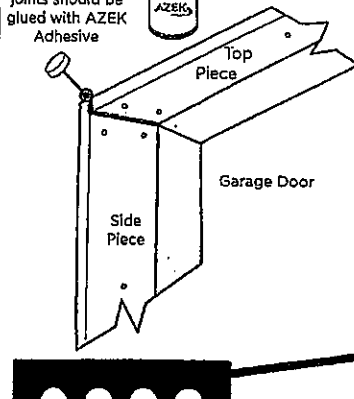
Garage Door Thermostop



Firmly push Thermostop against Garage Door and fasten. Rubber seal should be in contact with Garage Door, but not too tight. Place 2 fasteners within 1/2" of all ends and splices. All other fasteners should be 8" on center entire length of board.



All AZEK to AZEK joints should be glued with AZEK Adhesive

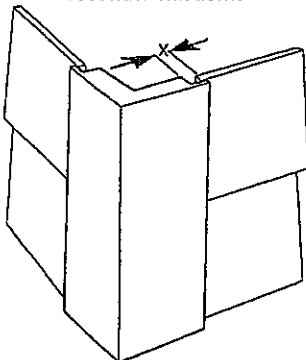


SIZES

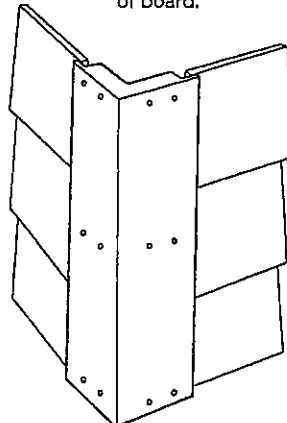
- 3/8" x 2"
- 7', 9', and 16' lengths

Rabbeted Cornerboard

Leave gap to accommodate for siding according to manufacturer recommendations.

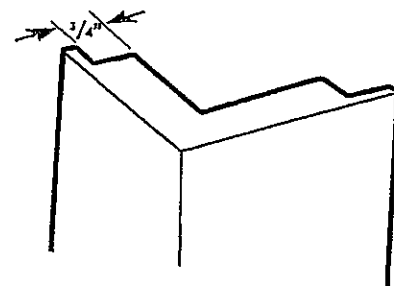


Fasten both sides according to standard AZEK Trim Guidelines. 4" Cornerboards may be installed using 2 fasteners at ends and splices and 1 fastener 12" OC through length of board.



SIZES

- 5/4 thick
- Traditional in 4", 6" and 8" widths
- Frontier in 4" and 6" widths
- 10' and 20' lengths





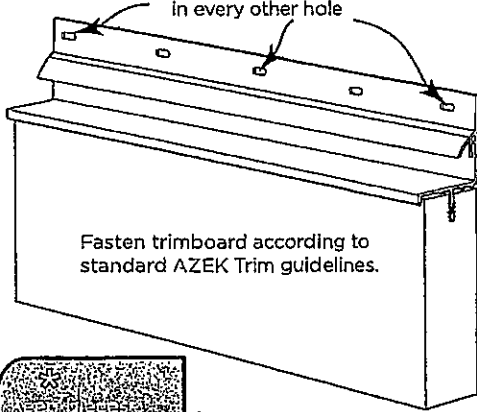
Installation Guidelines for AZEK Trim and AZEK Moulding



Universal Skirt Board

This is a two part product. Choose trim finish by facing either Traditional or Frontier out. Insert Universal Skirt Board interface via press fit. Once inserted, USB interface cannot be removed.

Fasten using nail (minimum 1 1/2" long with minimum of 5/16" head) in every other hole

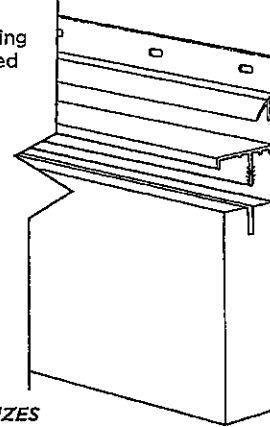


Fasten trimboard according to standard AZEK Trim guidelines.

Be sure cement board siding compresses the integrated rubber gasket

Vinyl Siding

Cement Board Siding



SIZES

Trimboard
• 5/4 x 6 and 5/4 x 8 in 18' lengths

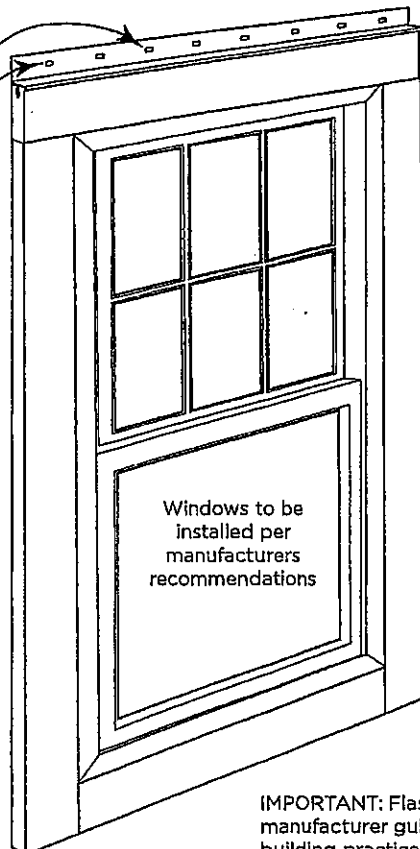
Universal Skirt Board Interface
• 1 1/2" nailing flange
• 1/4" drip edge overhang

IMPORTANT: Flash according to water barrier manufacturer guidelines. Use common accepted building practices to prevent water infiltration.

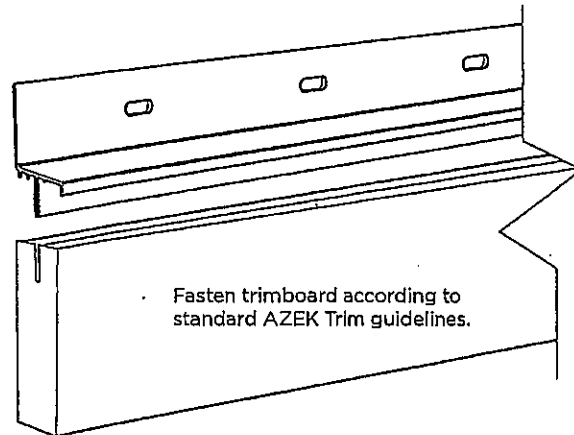
Integrated Drip Edge

This is a two part product. Choose trim finish by facing either Traditional or Frontier out. Insert Integrated Drip Edge interface via press fit. Once inserted, IDE interface cannot be removed.

Fasten using nail (minimum 1 1/2" long with minimum of 5/16" head) in every other hole



Windows to be installed per manufacturers recommendations



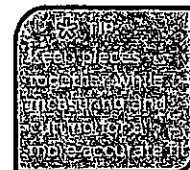
Fasten trimboard according to standard AZEK Trim guidelines.

SIZES

Trimboard
• 5/4 x 4 and 5/4 x 6 in 18' lengths

Integrated Drip Edge Interface
• 1 1/4" nailing flange
• 1/8" drip edge overhang

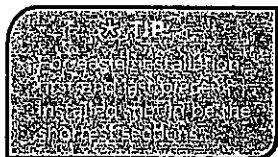
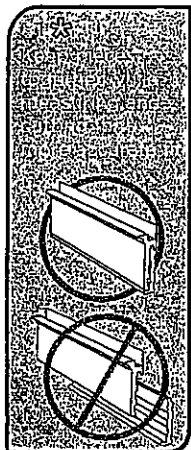
IMPORTANT: Flash according to water barrier manufacturer guidelines. Use common accepted building practices to prevent water infiltration.



Finish Grade Trim

1

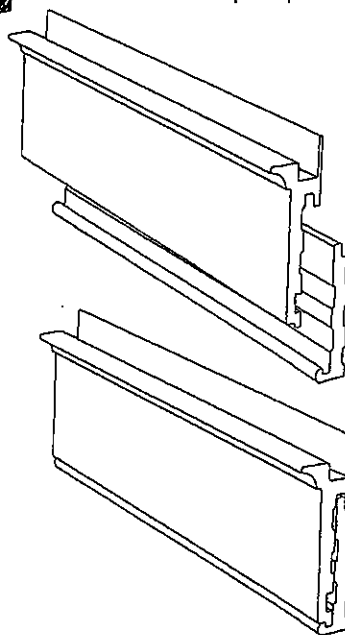
Measure and cut trim
boards for mitered
corners



IMPORTANT: Flash according to water barrier manufacturer guidelines. Use common accepted building practices to prevent water infiltration.

Windows to be
installed per
manufacturers
recommendations

This is a two part product.

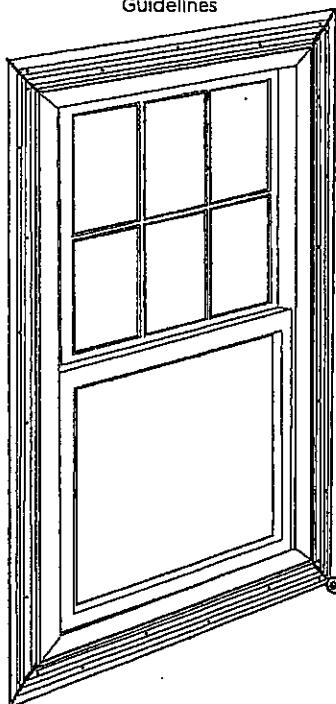


SIZE

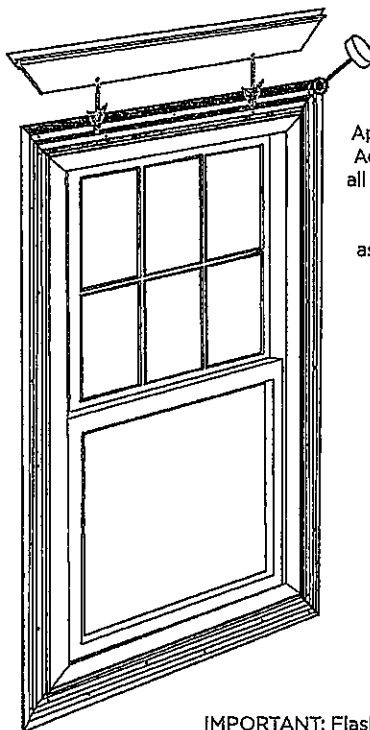
- 6/4 x 6 in 18' lengths
(approximate installed thickness
and width)
- Traditional finish only

2

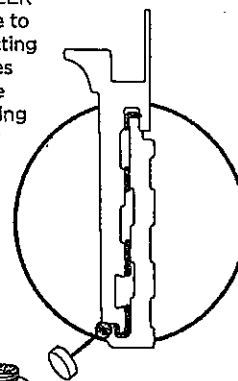
Fasten according to
standard AZEK Trim
Guidelines



Glue all
AZEK to
AZEK
joints



Apply AZEK
Adhesive to
all contacting
surfaces
before
assembling
cover

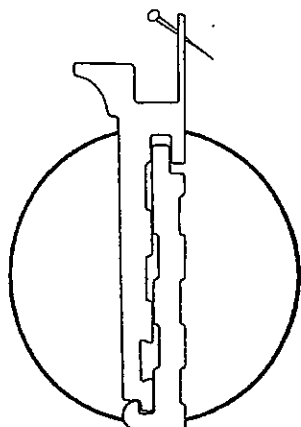


IMPORTANT: Flash according to water barrier manufacturer guidelines. Use common accepted building practices to prevent water infiltration.

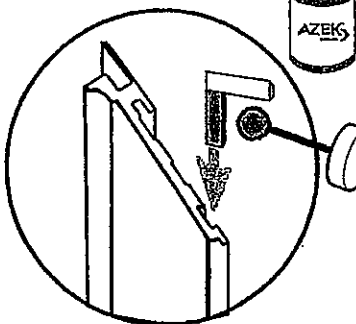
Finish Grade Trim

3

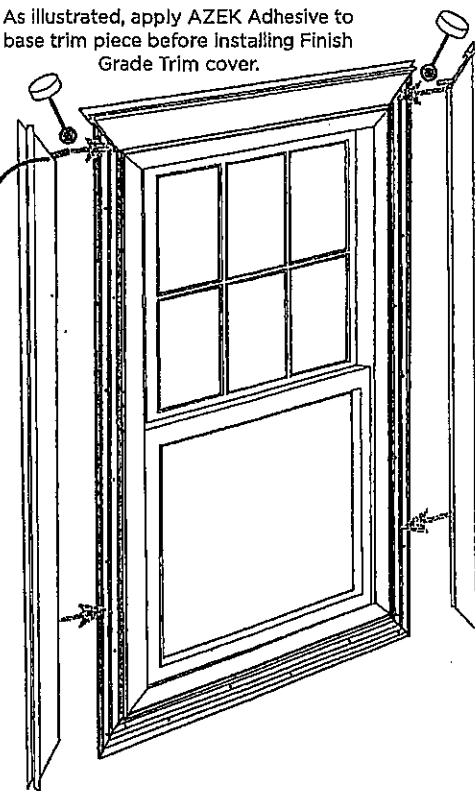
Mechanically fasten through nailing flange using recommended AZEK Trim fastener



Apply AZEK Adhesive and insert corner reinforcements

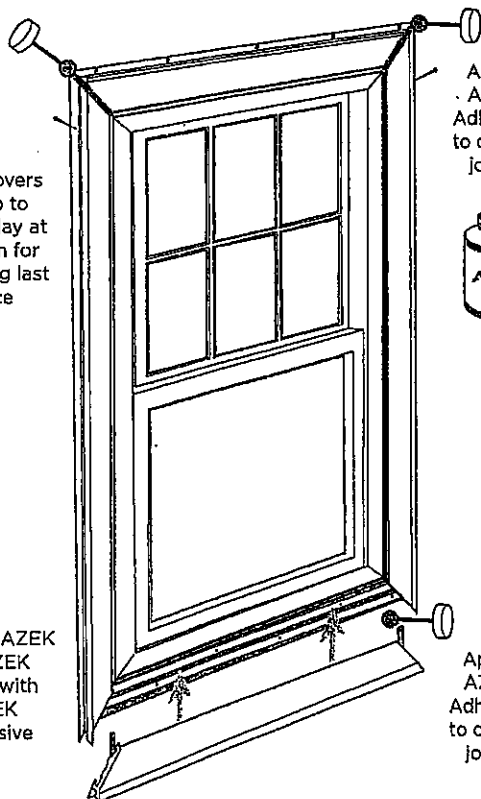


As illustrated, apply AZEK Adhesive to base trim piece before installing Finish Grade Trim cover.



4

Tack covers at top to allow play at bottom for installing last piece

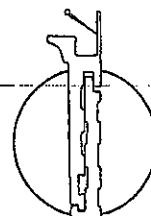
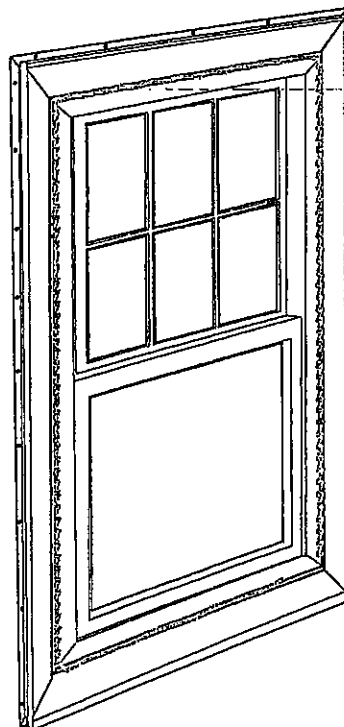


Glue all AZEK to AZEK joints with AZEK Adhesive

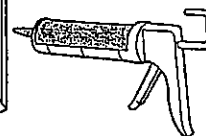
Apply AZEK Adhesive to corner joints



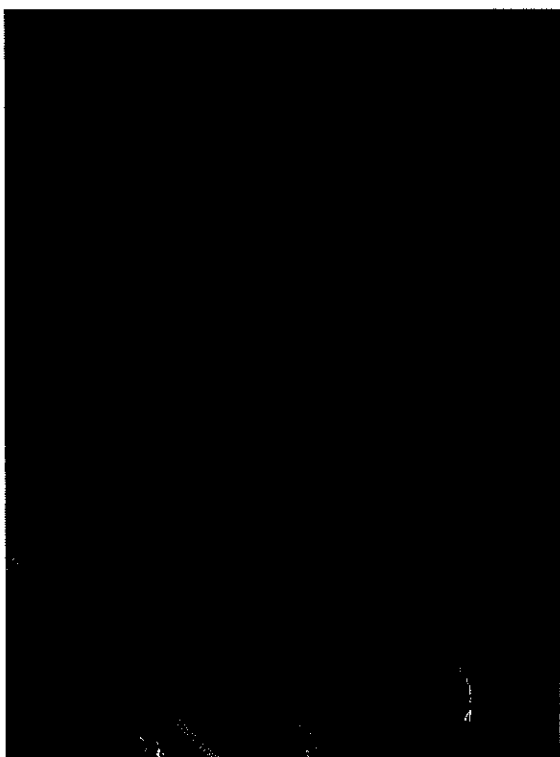
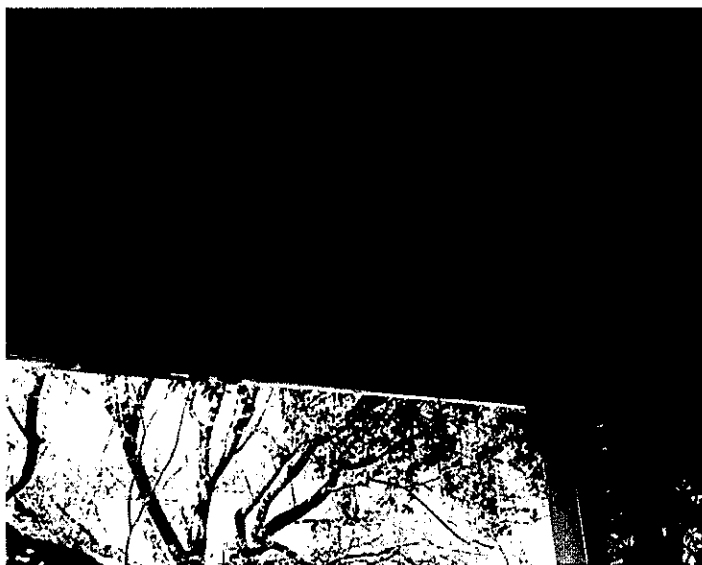
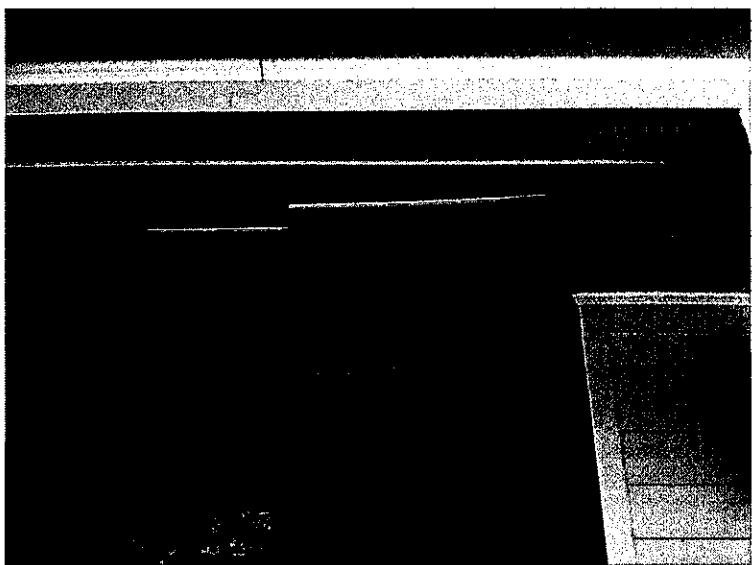
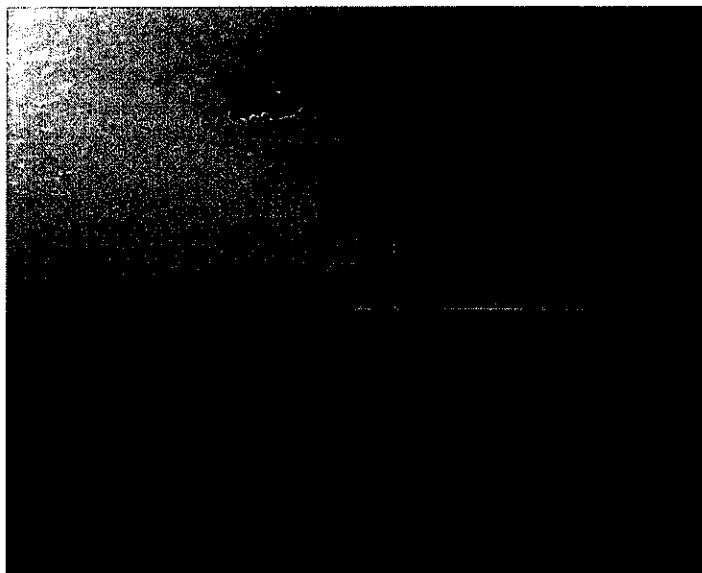
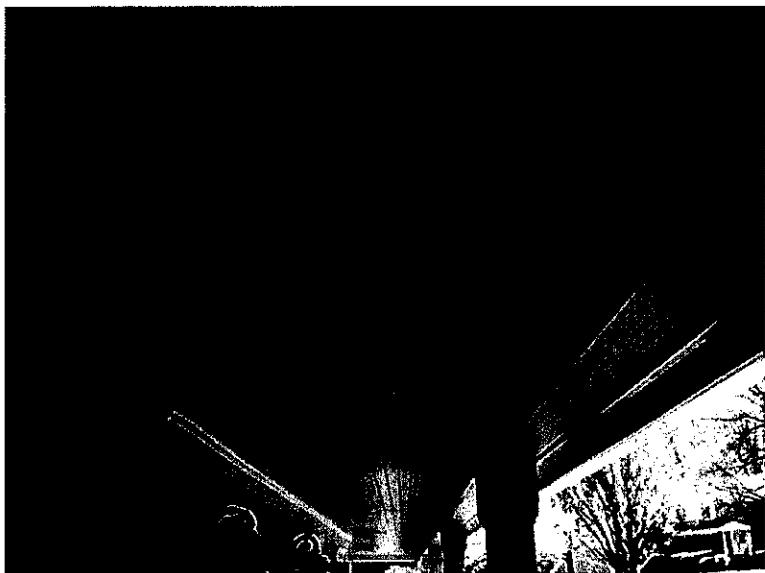
Apply AZEK Adhesive to corner joints



Complete the attachment of Finish Grade covers by mechanically fastening through nailing flange with recommended AZEK Trim fastener.



Caulk joint between window and trim to ensure proper seal



VIRGINIA:

BEFORE THE
STATE BUILDING CODE TECHNICAL REVIEW BOARD (REVIEW BOARD)

IN RE: Appeal of the City of Richmond
 Appeal No. 15-12

REVIEW BOARD STAFF DOCUMENT

1. The City of Richmond Department of Planning and Development Review (DPDR), the agency responsible for the enforcement of Part III of the Virginia Uniform Statewide Building Code, the Virginia Maintenance Code (VMC), issued a Notice of Violation dated March 12, 2015 to Mobile Towne Partnership (Partnership) for a manufactured home (Unit TR80) located in its park at 5005 Old Midlothian Turnpike.
2. The property was cited for two violations under VMC Section 105.1. (*Unsafe Structures or Structures Unfit for Human Occupancy*). One violation concerned the unfit provisions of the section due to a lack of required heating facilities; the other concerned the unsafe provisions relating to an addition built on the property without a building permit.
3. The Notice of Violation issued by DPDR was mailed to the Partnership in late March or early April of 2015 requiring abatement of the respective violations within thirty calendar days.
4. Subsequently, Phillip T. Storey (Storey), an attorney representing the owner of the manufactured home, Heberto Najera (Najera), filed an appeal of the notice to the City of Richmond's Local Board of Building Code Appeals (local appeals board) on April 9, 2015.

5. The local appeals board conducted a hearing on Storey's appeal and ruled to reverse DPDR's Notice of Violation specifically on the unfit provisions relating to the lack of required heating facilities in the home.

6. Subsequently, the DPDR further appealed to the Review Board.

3. 7. Review Board staff conducted an informal fact-finding conference in October of 2015, attended by a DPDR representative, and Storey and his two associates. During discussion, Storey explained that the property is owned by the Partnership, but that the manufactured home on the property is owned by Najera. While reviewing the submitted documents with the parties, Review Board staff noted that it had not yet received Storey's application for appeal to the local board of building code appeals. Consequently, DPDR agreed to provide a copy of the appellant's application for appeal to Review Board staff. Also, during the conference, DPDR clarified it was only appealing the local board's decision on the unfit provisions of Section 105.1 (*Unsafe Structures or Structures Unfit for Human Occupancy*), concerning the lack of required heating facilities referenced in the USBC definition of "Structure Unfit for Human Occupancy:"

"STRUCTURE UNFIT FOR HUMAN OCCUPANCY. An existing structure determined by the code official to be dangerous to the health, safety, and welfare of the occupants of the structure of the public because of (i) of the degree to which the structure is in disrepair or lacks maintenance, ventilation, illumination, sanitary or heating facilities or other essential equipment, or (ii) the required plumbing and sanitary facilities are inoperable."

8. This staff document was drafted and distributed to the parties and timeframes were established for the submittal of objections; corrections or additions to the staff document; the submittal of additional documents for the record; and written arguments to be included in the record of the appeal prepared for the hearing before the Review Board.

Suggested Issue for Resolution by the Review Board

1. Whether to overturn the decision of the local appeals board and hold that a violation of VMC Section 105.1 exists, and, if ruling in the positive,
2. Whether to hold the Partnership or Najera as the responsible party for the cited violation.

COMBINED DOCUMENTS



NOTICE OF VIOLATION

UNSAFE STRUCTURE

City of Richmond
Department of Planning & Development Review
Property Maintenance Code Enforcement Division
900 E. Broad Street, Room
Richmond, Virginia 23219

Owner/Agent:

Mobile Towne Partnership

Po Box 36614
Richmond, VA 232350000

Date: 3/12/2015

Map Reference: C006-0518/050

Tracking #: 20020969564
Inspector: Randall C. Masters
Phone: (804) 646-6974

Property located at: 5005 Old Midlothian Tpke ~~UF801~~

Building use at time of inspection: _____

A City of Richmond Property Maintenance Inspector inspected the building/structure/dwelling unit specified above on 3/11/2015. The listed violations of the Virginia Maintenance Code (VMC) 2006 as amended and adopted by the City of Richmond Code Section 14-1 were found to exist. The violations cited must be abated by 4/12/2015 or as specified in the Special Orders included in the attached report.

Upon expiration of the abatement date the building/structure/dwelling unit will be re-inspected for code compliance.

Failure to comply with this Notice may result in court action and fines of up to \$2,500.00 per violation if convicted (VMC Section 104.5.6 and VMC Section 104.5.7). In addition, the City may disallow occupancy, placard the structure, or abate the unsafe condition(s). A lien may be attached to the tax bill for administrative fees and any incurred costs, i.e., the cost of abating the unsafe conditions, securing, and/or razing/removing the structure. Please be advised that the City reserves the right, under applicable Spot Blight Abatement laws and policies, to acquire and then demolish this structure if the above violations are not resolved within the time frames provided.

You have the right to appeal this notice. Appeals must be made within fourteen (14) days of receipt of this Notice of Violation. A fee shall accompany your appeal. (VMC Section 106.5)

It is required that the recipient of this notice declare, immediately upon receipt, acceptance or rejection of the terms of this notice. (VMC Section 105.4)

All codes referenced herein are from the Virginia Maintenance Code unless otherwise stated.

If you have questions regarding this Notice of Violation you should contact the inspector between 8:00 a.m. and 9:00 a.m. or between 4:00 p.m. and 5:00 p.m. at the number given above.

Report of Unsafe Conditions

105.1 UF Structure Is Found Unfit, Due To Disrepair, Lack Of Maintenance, Ventilation,

226

Illumination, Sanitary Or Heating Facilities, Other Essential Equipment Or Required Plumbing And Sanitary Facilities Are Inoperable And May Warrant Condemnation
Special Order: This Structure Has Been Inspected And Found To Be Unfit For Occupancy Due To The Following Condition(s): Dwelling Found Without Required Heating Facilities. Heating Equipment Must Be Proved And Maintained By The Owner And Must Be Able To Heat All Habitable Rooms, And Bathrooms To At Least Not Less Than 65f. A Permit Is Required Prior To The Installation Of Heating Unit. Please Contact Permits And Inspection Office At 804-646-6955 To Obtain Permit Prior To Installation.

105.1 US Structure Or Equipment Therein Has Is Found Unsafe Due To Damage, Deterioration Or The Conditions Found And May Warrant Condemnation For Failure To Correct.
Special Order: This Structure Has Been Inspected And Found To Be Unsafe Due To The Following Condition(s): Addition Was Built Without Any Permits. An Architect Or Engineers Drawings Must Be Submitted And A Building Permit Issued.



Appeal No: H01-20020969364

In order for this appeal to be processed the appropriate fee according to the fee schedule must be paid prior to submittal. Appeal fee is non-refundable.

Application for Appeal

I (we) Phillip T. Storey of Legal Aid Justice Center
(name) 1213 E. Broad St., Richmond
(mailing address) 23219

respectfully request that the Local Board of Building Code Appeal review the decision made on 3/12/2015 by the Code Official.
(date)

I am appealing the following code section(s): 105.1 UF

Description of Decision Being Appealed: Heating facilities/equipment requirement.

Location of Property Involved: 5005 Old Midlothian Tpke #20

What is the applicant's interest in the property?

☐
☐
☒
☐

owner
contractor
owner's agent
other (explain) _____

Relief Sought: Overturn and declare invalid

Attach the decision of the Code Official and any other pertinent documents that will be needed to support your position in the appeal. No additional information will be accepted within 14 days of the scheduled hearing. All documentation must be submitted in sets of nine (9).

Phillip T. Storey
Signature of Applicant

Filed at Richmond, Virginia, the 9th day of April, 2015.

\$184.00



Resolution

WHEREAS, the Local Board of Building Code Appeals is duly appointed to resolve disputes arising out of enforcement of the Virginia Uniform Statewide Building Code and the BOCA National Property Maintenance Code/1996.

WHEREAS, an appeal has been filed and submitted to the board of appeals and

WHEREAS, a hearing has been held to consider the aforementioned appeal; and

WHEREAS, the board has fully deliberated on this matter; now, therefore, be it

RESOLVED, that in the matter of

Appeal No. H01-20020969564 #80

← CASE #1

In RE: Phillip T. Storey

The decision of the code official is hereby Reversed, for the reasons set out below:

The provisions of the code was
not enforced or was not interpreted properly by
the code official

The vote was - Uphold 1 Reverse ✓5 Modify _____

Date 10 July 15 gr

Signature of Chairman of the Board [Signature]

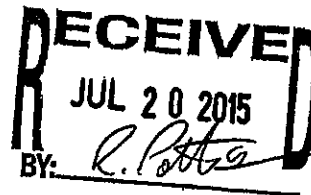
"Upon receipt of this resolution, any person who was a party to the appeal may appeal to the State Building Code Technical Review Board by submitting an application to such Board within 21 calendars days."

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
State Building Codes Office and Office of the State Technical Review Board
Main Street Centre, 600 E. Main Street, Suite 300, Richmond, Virginia 23219
Tel: (804) 371-7150, Fax: (804) 371-7092, Email: alan.mcmahan@dhcd.virginia.gov

APPLICATION FOR ADMINISTRATIVE APPEAL

Regulation Serving as Basis of Appeal (check one):

- ☒ Uniform Statewide Building Code
- ☐ Statewide Fire Prevention Code
- ☐ Industrialized Building Safety Regulations
- ☐ Amusement Device Regulations



Appealing Party Information (name, address, telephone number and email address):

City of Richmond, 900 E. Broad Street, Richmond, VA 23219, (804) 646-6398, john.walsh@richmondgov.com

Opposing Party Information (name, address, telephone number and email address of all other parties):

Phil Storey, 123 E. Broad Street, Richmond, VA 23219, (804) 643-1086, phil@justice4all.org

Additional Information (to be submitted with this application)

- ☐ Copy of enforcement decision being appealed
- ☐ Copy of record and decision of local government appeals board (if applicable and available)
- ☐ Statement of specific relief sought

CERTIFICATE OF SERVICE

I hereby certify that on the 20 day of July, 2015, a completed copy of this application, including the additional information required above, was either mailed, hand delivered, emailed or sent by facsimile to the Office of the State Technical Review Board and to all opposing parties listed.

Note: This application must be received by the Office of the State Technical Review Board within five (5) working days of the date on the above certificate of service for that date to be considered as the filing date of the appeal. If not received within five (5) working days, the date this application is actually received by the Office of the Review Board will be considered to be the filing date.

Signature of Applicant: _____

Name of Applicant: _____

John G. Walsh, Operations MGR, City of Richmond
(please print or type)

Specific Relief Sought

Action:

The City inspector cited a pre-1986 manufactured home as Unfit due in-part to a lack of operating heating facilities. Unit was in place, but completely non-operational.

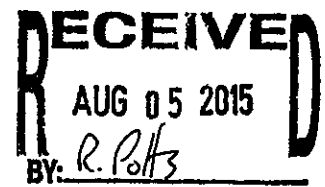
Appeal Outcome:

The mobile home owner appealed the decision and claimed that the City of Richmond, by way of its Code Enforcement Division, had miss-interpreted and misapplied section 105.1, and the definition of an Unfit Structure.

The local appeal board ruled in favor of the appellant on two basic points. The first was that the City lacked authority to even conduct an interior inspection of an owner occupied structure, and second there was confusion on whether or not heating facilities are required in the warm months of the year.

Relief Sought:

The City of Richmond asks the Technical Review Board to reverse the decision of the Local Board of Building Code Appeals and reinstate the Unfit elements of the notice related to operational heat requirements as part of the definition of an Unfit Structure.



**LEGAL AID
JUSTICE CENTER**

Phillip T. Storey
Attorney

August 5, 2015

State Building Code Technical Review Board
Main Street Centre
600 E. Main Street, Suite 300
Richmond, VA 23219

Sent by Email: Richard.Potts@dhcd.virginia.gov; Alan.McMahan@dhcd.virginia.gov

Re: Appeal No. 15-12

Dear Review Board Members:

We respectfully submit the attached Memorandum in Opposition to Appeal No. 15-12, City of Richmond v. Storey.

Although we understand this to be a *de novo* appeal, we also wish to inform the Review Board that we dispute the City of Richmond's characterization of the bases for the local appeal board's decision. Having reviewed the audio recording of the local appeal board hearing, we are confident that the decision was *not* based on the issues mentioned by the City in its statement accompanying this appeal, but rather on the legal issues addressed in the enclosed Memorandum.

We look forward to the successful resolution of this matter.

Sincerely,

Phillip T. Storey

Encl.

STATE BUILDING CODE TECHNICAL REVIEW BOARD

APPEAL NO. 15-12

CITY OF RICHMOND V. STOREY

APPEAL FILED JULY 20, 2015

MEMORANDUM IN OPPOSITION TO APPEAL

The action at issue in this appeal is the City of Richmond (“the City”) code official’s determination that the subject structure is unfit for human habitation, as defined by the Virginia Maintenance Code (“VMC”) § 202. That determination is communicated by reference to VMC § 105.1 (a “105.1 UF” violation). However, that determination depends on an incorrect interpretation of substantive provisions of the VMC (§ 602.2) that the Board of Housing and Community Development (“Board of Housing”) made an unambiguous policy decision to eliminate.

The City’s imposition, through a determination of unfitness, of a requirement that the Board of Housing intentionally eliminated from the VMC, is a legally unjustifiable effort to substitute its own policy judgment for that of the Board of Housing. The State Building Code Technical Review Board (“Review Board”) should uphold the decision of the Local Board of Building Code Appeals, which overturned the Notice of Violation.

I. THE NOTICE OF VIOLATION

Stated Reason for Unfit Determination

Section 202 of the VMC defines “Structure Unfit for Human Habitation” as the following:

An existing structure determined by the code official to be dangerous to the health, safety and welfare of the occupants of the structure or the public because (i) of the degree to which the structure is in disrepair or lacks maintenance, ventilation, illumination, sanitary or heating facilities or other essential equipment, or (ii) the required plumbing and sanitary facilities are inoperable.

Violation “105.1 UF” in the Notice of Violation (“NOV”) at issue explains, in a “Special Order,” the specific reason the code official finds the structure unfit. It states:

This structure has been inspected and found to be unfit for occupancy due to the following condition(s): Dwelling found without required heating facilities. Heating equipment must be proved and maintained by the owner and must be able to heat all habitable rooms, and bathrooms to at least not less than 65f. ...

The explanation in the Special Order, and the mention of “required heating facilities,” is an obvious reference to VMC § 602.2. That is the only section in the VMC that requires the provision of heat in dwellings. Specifically, § 602.2 states that dwellings subject to its requirements must “maintain of a temperature of not less than 65°F (18°C) in all habitable rooms, bathrooms, and toilet rooms.”

It is thus clear from the Special Order that the basis for finding the structure unfit is the supposed violation of VMC § 602.2. As explained below, however, there is no violation of § 602.2 in this case.

II. VIRGINIA MAINTENANCE CODE HEATING REQUIREMENTS

Applicable Building and Maintenance Codes

The cited violation at issue in this appeal comes from the VMC, which is Part III of the Virginia Uniform Statewide Building Code (“USBC”). The USBC is created and maintained by the Board of Housing pursuant to § 36-98 of the Code of Virginia. Except in very limited situations which do not apply to the issue at hand, the USBC “supersede[s] the building codes and regulations of the counties, municipalities and other political subdivisions and state agencies.”¹

The VMC is based on the International Property Maintenance Code (“IPMC”), a model code of regulations developed and maintained by the International Code Council, Inc.² Most of the substantive provisions in the VMC (chapters 2-8) are incorporated from the IPMC without

¹ Va. Code § 36-98.

² The NOV at issue in this appeal cites the 2006 version of the VMC as authority, but at the time it was issued the 2012 version was in force. All references to the VMC will hereafter refer to the 2012 version.

modification.³ However, the Board of Housing has made certain changes to the text in the chapters incorporated from the IPMC. Those changes are referred to as “state amendments to the IPMC.”⁴ The VMC specifies that “state amendments to the IPMC supersede any provisions of Chapters 2-8 of the IPMC that address the same subject matter and impose differing requirements.”⁵

IPMC Heating Requirements

Chapter 6 of the IPMC covers Mechanical and Electrical Requirements, §602 (and subsections) of which includes the requirements for heating facilities. (See Exhibit 1.) Section 602 begins with subsection 602.1, which states, “Heating facilities shall be provided in structures as required by this section.” The subsections that follow 602.1 define what is “required by this section” (§ 602).

Subsection 602.2 of the IPMC states:

Dwellings shall be provided with heating facilities capable of maintaining a room temperature of 68°F (20°C) in all habitable rooms, bathrooms and toilet rooms based on the winter outdoor design temperature for the locality indicated in Appendix D of the International Plumbing Code. Cooking appliances shall not be used, nor shall portable unvented fuel-burning space heaters be used, as a means to provide required heating.

IPMC § 602.3 further requires landlords of rented dwelling units to provide heat to tenants, as required by lease terms:

Every owner and operator of any building who rents, leases or lets one or more dwelling units or sleeping units on terms, either expressed or implied, to furnish heat to the occupants thereof shall supply heat during the period from [DATE] to [DATE] to maintain a minimum temperature of 68°F (20°C) in all habitable rooms, bathrooms and toilet rooms.

Section 602 of the IPMC (specifically, subsections 602.2 and 602.3) plainly requires heating facilities in all residential occupancies of dwellings, whether rented or owner-occupied.

³ VMC § 101.2.

⁴ VMC § 101.4.

⁵ VMC § 101.6.

VMC Heating Requirements

In drafting the VMC, however, the Board of Housing has chosen to amend IPMC § 602 and its subsections in important ways. Specific to the issue on appeal in this case, VMC § 602.2 requires that landlords of rented dwelling units provide heat to tenants, as required by lease terms.

Every owner and operator of a Group R-2 apartment building or other residential dwelling who rents, leases or lets one or more dwelling unit, rooming unit, dormitory or guestroom on terms, either expressed or implied, to furnish heat to the occupants thereof shall supply heat during the period from October 15 to May 1 to maintain a temperature of not less than 65°F (18°C) in all habitable rooms, bathrooms, and toilet rooms . . .

In amending § 602.2, the Board of Housing eliminated the general requirements found in the IPMC § 602.2, which apply to owner-occupants as well as landlords. (See original change in 1990 version of the VMC, Exhibit 2.) It instead maintains only the landlord-specific requirements of the IPMC § 602.3.

The VMC then inserts, as § 602.2.1, a provision similar to the final sentence of IPMC § 602.2. “In dwelling units subject to Section 602.2, one or more unvented room heaters shall not be used as the sole source of comfort heat in a dwelling unit.” This mention of “dwelling units subject to Section 602.2” is a clear indication that § 602.2 does not apply to all dwelling units.

As noted above, VMC § 101.6 explicitly declares that “state amendments to the IPMC supersede any provisions . . . of the IPMC that address the same subject matter and impose differing requirements.” Because of this, the Board’s elimination of IPMC § 602.2’s requirement that all dwelling units be provided with heat (other than space heaters), including owner-occupied ones, means that the VMC does not require specific heating facilities in owner-occupied dwellings.

The property at issue in this appeal is owner-occupied, not rented. Because VMC § 602.2 does not apply to owner-occupied dwellings, the basis for the code official’s determination that it is unfit for occupancy is legally incorrect and cannot support the determination. An interpretation issued by the State Building Code Technical Review Board confirms this.

III. STATE TECHNICAL REVIEW BOARD INTERPRETATION

Lack of Heating Facilities Not Required by the Code Cannot Support Unfit Determination

The Review Board's Interpretation Number 6/90 (Exhibit 3), which was issued just after the removal of the owner-occupied heating requirement in 1990, addresses whether the absence of a heating system can be considered a health hazard under the provision § 105.3 (at the time, § 103.5) governing unsafe conditions not related to maintenance, if that absence does not violate § 602.2 (formerly PM-601.1).⁶ The Review Board's answer was unambiguous: No.

The finding of unsafe conditions pursuant to VMC § 105.3 is closely analogous to a determination that a structure is unfit for occupancy as defined by VMC § 202. The former applies to "a condition that constitutes a serious and dangerous hazard to life or health." The latter applies to a structure that is "dangerous to the health, safety and welfare of the occupants of the structure or the public."

The relationships between VMC § 602.2's heating requirements, as amended by the Board of Housing, and the unsafe or unfit determinations under VMC §§ 105.3 and 202, are identical. As with the Review Board's Interpretation 6/90, so it is with the basis for the unfit determination in the NOV in this case. Because the Board of Housing eliminated the heating requirement for owner-occupied dwellings, the lack of heat cannot support an unfit determination for an owner-occupied home like this one.

IV. PRINCIPLES OF CONSTRUCTION

Well-Established Legal Principles Govern the Interpretation of Regulations

Courts in Virginia have repeatedly stated that the interpretations administrative agencies give to regulations must be judged "in light of the principles of construction courts normally employ." *Bd. of Supervisors of Culpeper Cnty. v. State Bldg. Code Technical Review Bd.*, 52 Va. App. 460,

⁶ State Building Code Technical Review Board, Interpretations of the 1990 USBC, page 3.

466, 663 S.E.2d 571, 574 (2008). These principles of construction—rules for interpreting ambiguous statutes and regulations—are well established. They include the following.

- a) Substantive changes made to laws or regulations are presumed to be purposeful. Through its determination of unfitness for occupancy, the City seeks to enforce the heating requirement that the Board of Housing eliminated from VMC § 602.2. The City's interpretation assumes that the Board of Housing did not intend for its amendment to change the meaning of the regulation in the way that it obviously did. The Supreme Court of Virginia has stated. "As a general rule, a presumption exists that a substantive change in law was intended by an amendment to an existing statute." *Virginia-American Water Co. v. Prince William County Service Authority*, 246 Va. 509, 517, 436 S.E.2d 618, 622-23 (1993). The City's interpretation of the definition of unfitness in this case would deny the obvious intent of the amendment to VMC § 602.2, contrary to this principle of construction.
- b) When they conflict, specific provisions control over general ones. The definition of an unfit structure is far more general and ambiguous than the clear, specific heating requirements of VMC § 602.2. Principles of construction require that "when one statute [or regulation] speaks to a subject in a general way and another deals with a part of the same subject in a more specific manner, the two should be harmonized, if possible, and where they conflict, the latter [the more specific one] prevails." *Virginia Nat'l Bank v. Harris*, 220 Va. 336, 340, 257 S.E.2d 867, 870 (1979). Under this principle, the interpretation of the (ambiguous) definition of unfitness must be harmonized with the explicit, specific heating requirements of § 602.2. If the two cannot be harmonized, the requirements of § 602.2 must prevail.
- c) Administrative agencies cannot essentially rewrite regulations by interpretation. In general, administrative agencies are afforded some deference to their interpretations of ambiguous regulations they are authorized to administer. But "the administrative power to interpret a regulation does not include the power to rewrite it. When a regulation is not ambiguous, judicial deference to the agency's position would be to permit the agency,

under the guise of interpreting a regulation, to create de facto a new regulation.” *Bd. of Supervisors of Culpeper Cnty. v. State Bldg. Code Technical Review Bd.*, 52 Va. App. 460, 466-67, 663 S.E.2d 571, 574 (2008) (internal citations and quotations omitted). In this case, the City cannot de facto change the VMC’s heating requirement through its interpretation of the unfit structure definition.

As explained above, the City’s back-door attempt to impose the heating requirement that the Board of Housing intentionally eliminated from the VMC contradicts the principles of construction that must govern the interpretation of regulations. No consistent interpretation of the VMC can support the determination of unfitness in the NOV at issue here.

V. CONCLUSION

The Board of Housing’s amendment to § 602.2 clearly reflects a policy decision to eliminate the heating requirement for owner-occupied dwellings, making it only a landlord-specific provision as opposed to a general provision applicable to landlords and owner-occupants alike. Thus, the City’s position on heating requirements for owner-occupied dwellings ignores the state amendments to the IPMC and is contrary to established principles of statutory construction. Its attempt to use a determination of unfitness, pursuant to VMC §§ 105.1 and 202, to undo the Board of Housing’s amendments to § 602.2 has no valid legal basis. The Review Board should uphold the decision of the Local Board of Building Code Appeals, which overturned the Notice of Violation.



- [International Property Maintenance Code](#)
- [\[2012 \(Second Printing\) \]](#)
- [Chapter 6 - Mechanical and Electrical Requirements](#)
 - [SECTION 601 GENERAL](#)
 - [SECTION 602 HEATING FACILITIES](#)
 - [SECTION 603 MECHANICAL EQUIPMENT](#)
 - [SECTION 604 ELECTRICAL FACILITIES](#)
 - [SECTION 605 ELECTRICAL EQUIPMENT](#)
 - [SECTION 606 ELEVATORS, ESCALATORS AND DUMBWAITERS](#)
 - [SECTION 607 DUCT SYSTEMS](#)

[602.1 Facilities required.](#)

[602.2 Residential occupancies.](#)

[602.3 Heat supply.](#)

[602.4 Occupiable work spaces.](#)

[602.5 Room temperature measurement.](#)

[602.1 Facilities required.](#)

[602.2 Residential occupancies.](#)

[602.3 Heat supply.](#)

[602.4 Occupiable work spaces.](#)

[602.5 Room temperature measurement.](#)

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SECTION 602 HEATING FACILITIES

602.1 Facilities required.

Heating facilities shall be provided in structures as required by this section.

602.2 Residential occupancies.

Dwellings shall be provided with heating facilities capable of maintaining a room temperature of 68°F (20°C) in all habitable rooms, *bathrooms* and *toilet rooms* based on the winter outdoor design temperature for the locality indicated in Appendix D of the *International Plumbing Code*. Cooking appliances shall not be used, nor shall portable unvented fuel-burning space heaters be used, as a means to provide required heating.

Exception: In areas where the average monthly temperature is above 30°F (-1°C), a minimum temperature of 65°F (18°C) shall be maintained.

602.3 Heat supply.

Every *owner* and *operator* of any building who rents, leases or lets one or more *dwelling units* or *sleeping units* on terms, either expressed or implied, to furnish heat to the *occupants* thereof shall supply heat during the period from [DATE] to [DATE] to maintain a minimum temperature of 68°F (20°C) in all habitable rooms, *bathrooms* and *toilet rooms*.

Exceptions:

1. When the outdoor temperature is below the winter outdoor design temperature for the locality, maintenance of the minimum room temperature shall not be required provided that the heating system is operating at its full design capacity. The winter outdoor design temperature for the locality shall be as indicated in Appendix D of the *International Plumbing Code*.
2. In areas where the average monthly temperature is above 30°F (-1°C) a minimum temperature of 65°F (18°C) shall be maintained.

602.4 Occupiable work spaces.

Indoor occupiable work spaces shall be supplied with heat during the period from [DATE] to [DATE] to maintain a minimum temperature of 65°F (18°C) during the period the spaces are occupied.

Exceptions:

1. Processing, storage and operation areas that require cooling or special temperature conditions.
2. Areas in which persons are primarily engaged in vigorous physical activities.

602.5 Room temperature measurement.

The required room temperatures shall be measured 3 feet (914 mm) above the floor near the center of the room and 2 feet (610 mm) inward from the center of each exterior wall. [Top Previous Section](#) [Next Section](#) To view the next subsection please select the Next Section option.

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Final Regulations

7/7/1092

ARTICLE 6.

7. Delete Section ES-301.10.

8. Delete Section ES-301.10.1.

9. Delete Section ES-301.10.2.

(E) Change Section PM-302.12 to read:

PM-302.12 Insect screens: During the period from April 1 to December 1 every door, window and other outside opening required for ventilation purposes serving any building containing habitable rooms, food preparation areas, food service areas, or any areas where products used in food for human consumption are processed, manufactured, packaged or stored, shall be supplied with approved tightly fitting screens of not less than 16 mesh per inch and every swinging door shall have a self-closing device in good working condition.

Exception: Screen doors shall not be required for out-swinging doors or other types of openings which make screening impractical, provided other approved means, such as air curtains or insect repellent fans are employed.

ARTICLE 4

LIGHT, VENTILATION AND SPACE REQUIREMENTS

(A) Change Section ES-401.2 PM-401.1 to read:

ES-401.2. PM-401.1. Habitable spaces: Every habitable space shall have at least one window of approved size facing directly to the outdoors or to a court. The minimum total window area, measured between stops, for every habitable space shall be 4.0% of the floor area of such room, except in kitchens when artificial light may be provided in accordance with the provisions of the building code. Whenever walls or other portions of a structure face a window of any other room and such obstructions are located less than three feet (914 mm) from the window and extend to a level above that of the ceiling of the room, such a window shall not be deemed to face directly to the outdoors nor to a court and shall not be included as contributing to the required minimum total window area for the room.

(B) Delete Section PM-403.10.

ARTICLE 5:
PLUMBING FACILITIES AND FIXTURE
REQUIREMENTS.

Change section ES-503.5 to read:

ES-503.5. Water conservation: Plumbing fixtures which are replaced shall be of water saving construction and use as required by the energy and plumbing codes listed in the Virginia Uniform Statewide Building Code, Volume I, New Construction.

1. Delete section ES-601.5 Boiler inspections:

Note: See § 36-07(12) of the Code of Virginia for equipment definition.

(A) Change Section PM-601.1 to read:

PM-601.1. Residential buildings: [Every dwelling shall be provided with heating facilities capable of maintaining a room temperature of 65°F (18°C) at a level of 3 feet (914 mm) above the floor and a distance of 3 feet (914 mm) from the exterior walls on all habitable rooms, bathrooms, and toilet rooms based on the outside design temperature required for the locality by the mechanical code listed in Appendix A.] Every owner and operator of any building who rents, leases or lets one or more dwelling unit, rooming unit, dormitory or guest room on terms, either express or implied, to furnish heat to the occupants thereof shall supply sufficient heat during the period from October 1 to May 15 to maintain a room temperature of not less than 65°F (18°C) in all habitable rooms, bathrooms, and toilet rooms during the hours between 6:30 a.m. and 10:30 p.m. of each day and not less than 60°F (16°C) during other hours. The temperature shall be measured at a point 3 feet (914 mm) above the floor and 3 feet (914 mm) from the exterior walls. When the outdoor temperature is below the outdoor design temperature required for the locality by the mechanical code listed in Appendix A, the owner or operator shall not be required to maintain the minimum room temperatures, provided the heating system is operating at full capacity, with supply valves and dampers in a full open position.

(B) Change Section PM-601.2 to read:

PM-601.2. Nonresidential structures: [Every enclosed occupied work space shall be supplied with Every owner of any structure who rents, leases, or lets the structure or any part thereof on terms, either express or implied, to furnish heat to the occupants thereof shall supply] sufficient heat during the period from October 1 to May 15 to maintain a temperature of not less than 65°F (18°C) during all working hours. The temperature shall be measured at a point 3 feet (914 mm) above the floor and 3 feet (914 mm) from the exterior walls.

Exceptions

1. Processing, storage and operation areas that require cooling or special temperature conditions.

2. Areas in which persons are primarily engaged in vigorous physical activities.

(C) Add new Section PM-603.3 to read:

PM-603.3. Inspection: Routine and periodic inspections shall be performed in accordance with Part X of ASME A-17.1 listed in Appendix A.

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Interpretations of the State Building Code Technical Review Board
Page 1990/3

✓ INTERPRETATION NUMBER: 6/90
Code: USBC, Volume II/1990
Section No(s): PM-601.1

QUESTION #1: Would an existing apartment building with no heating systems be required to provide or install a heating system to maintain the conditions specified in Section PM-601.1 as amended in Volume II of the USBC?

ANSWER #1: No, Section PM-601.1 is applicable only when the terms to furnish heat are expressed in the rental agreement or implied in some other manner.

QUESTION #2: If the answer to the first question is no, could the absence of heating be considered as a health hazard in accordance with Section 103.5 of the USBC, Volume II?

ANSWER #2: No

✓ INTERPRETATION NUMBER: 7/90
Code: USBC, Volume I/1990
Section(s): 110.3 and 2702.3

QUESTION: Are the electrical services to a building (dwelling unit, etc.) required to be hot (power on) for an electrical inspector to perform a final inspection?

ANSWER: Section 2702.3 of the BOCA National Building Code, 1990 Edition, is deleted in accordance with Section 101.2 of the USBC. The local building official is authorized by Section 110.3 of the USBC to perform various inspections of buildings under construction to determine compliance with the provisions of the building code. In accordance with Section 110.3, Item 7, the building official is required to perform a final inspection to insure that all work conforms to the USBC. The building official has authority to require that building electrical systems, components or devices be energized as part of the final inspection.

→ *Deleted due to change in code*
INTERPRETATION NUMBER: 8/90
Code: USBC, Volume I/1990 - First Amendment
Section No(s): Addendum 1 - 512.2, Addendum 3 - 4.14.1, 4.14.2 and 4.28.2

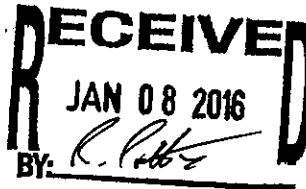
QUESTION #1: An existing building is to be renovated and no change of use will occur. If neither of the existing required exits will be altered in any fashion, must they be made accessible per Section 4.14.2 of Addendum 3?

ANSWER #1: No, the existing exits remain subject to the edition of the USBC under which they were initially constructed, provided there is no change of use.

QUESTION #2: An existing building is to be renovated and no change of use occurs, but an additional exit is required. Is this additional exit required to be made accessible per Section 4.14.2 of Addendum 3?

ANSWER #2: Yes, the construction of additional exits would be subject to the provisions of the 1990 USBC.

LEGAL AID
JUSTICE CENTER



Phillip T. Storey
Attorney

January 8, 2016

State Building Code Technical Review Board Staff
Main Street Centre
600 E. Main Street, Suite 300
Richmond, VA 23219

Sent by Email: Richard.Potts@dhcd.virginia.gov; Alan.McMahan@dhcd.virginia.gov

Re: Corrections and Response to Review Board Staff Document, Appeal No. 15-12

Dear Review Board Staff:

Having reviewed the Review Board Staff Document and the Combined Documents for appeal No. 15-12, we respectfully submit the following corrections to the Staff Document. (Suggested specific edits enclosed.)

1. The original appellant, represented by Mr. Storey, is the owner and occupant of the cited structure (Heberto Najera), not the owner of the mobile home park (Mobile Towne Partnership).
2. The Notice of Violation ("NOV") was *addressed* to the Partnership, but *delivered* to the resident(s) of the cited structure.
3. The most legally relevant representation Mr. Storey made at the informal fact-finding conference is that the structure cited in the NOV is owned and occupied (not leased or rented) by his client. The fact that the owner of the structure does not own the land on which it is located is not legally relevant to the issue on appeal.
4. The issue for resolution by the Review Board is simply whether to overturn the decision of the local appeals board and hold that *the violation* of Virginia Maintenance Code ("VMC") § 105.1's unfit provision exists *as described in the NOV*. (The issue is not whether *any* violation exists, but whether the specific violation cited in the NOV is valid.)

It is undisputed that the owner of the structure is the one responsible for bringing the structure into compliance with the VMC.

We thank the Review Board Staff for its care in presenting this matter for the Board's review. Please feel free to contact us for any clarifications or with any concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Phillip T. Storey", written in a cursive style.

Phillip T. Storey

Encl.

VIRGINIA:

BEFORE THE
STATE BUILDING CODE TECHNICAL REVIEW BOARD (REVIEW BOARD)

IN RE: Appeal of the City of Richmond
 Appeal No. 15-13

REVIEW BOARD STAFF DOCUMENT

1. The City of Richmond Department of Planning and Development Review (DPDR), the agency responsible for the enforcement of Part III of the Virginia Uniform Statewide Building Code, the Virginia Maintenance Code (VMC), issued a Notice of Violation to Mobile Towne Partnership (Partnership) for a manufactured home located in its park at 5005 Old Midlothian Turnpike (Unit TR102).

2. The Notice of Violation cited two violations of VMC Section 105.1 (*Unsafe Structures or Structures Unfit for Human Occupancy*). One being the unfit provisions of the section due to a lack of required heating facilities; the other concerned the unsafe provisions relating to an addition built on the property without a building permit.

3. The Notices of Violation issued by DPDR were mailed to the Partnership in late March or early April of 2015 requiring abatement of the respective violations within thirty calendar days.

4. Subsequently, Phillip T. Storey (Storey), an attorney representing the owner of the manufactured home, Ingrid Giron de Munoz (Munoz), filed an appeal for the Notice of Violation to the City of Richmond's Local Board of Building Code Appeals (local appeals board) on April 9, 2015.

5. In July of 2015, the local appeals board heard Storey's appeal concerning the unfit provisions of VMC Section 105.1 and ruled to reverse the DPDR's Notice of Violation.

6. As a result, the DPDR further appealed to the Review Board.

7. Review Board staff conducted an informal fact-finding conference in October of 2015, attended by a DPDR representative, and Storey and his two associates. During discussion, Storey explained that the property is owned by the Partnership, but that the manufactured home on the property is owned by Munoz. Also, during the conference, DPDR clarified it was only appealing the local board's decision on the unfit provisions of Section 105.1 (*Unsafe Structures or Structures Unfit for Human Occupancy*), concerning the lack of required heating facilities referenced in the USBC definition of "Structure Unfit for Human Occupancy:"

"STRUCTURE UNFIT FOR HUMAN OCCUPANCY. An existing structure determined by the code official to be dangerous to the health, safety, and welfare of the occupants of the structure of the public because of (i) of the degree to which the structure is in disrepair or lacks maintenance, ventilation, illumination, sanitary or heating facilities or other essential equipment, or (ii) the required plumbing and sanitary facilities are inoperable."

8. This staff document was drafted and distributed to the parties and timeframes were established for the submittal of objections; corrections or additions to the staff document; the submittal of additional documents for the record; and written arguments to be included in the record of the appeal prepared for the hearing before the Review Board.

Suggested Issue for Resolution by the Review Board

1. Whether to overturn the decision of the local appeals board and hold that a violation of Section 105.1 (*Unsafe Structures or Structures Unfit for Human Occupancy*) exists, and if ruling in the positive,
2. Whether to hold the Partnership or Munoz as the responsible party for the cited violation.

COMBINED DOCUMENTS



NOTICE OF VIOLATION

UNSAFE STRUCTURE

City of Richmond

Department of Planning & Development Review

Property Maintenance Code Enforcement Division

900 E. Broad Street, Room

Richmond, Virginia 23219

Owner/Agent:

Mobile Towne Partnership

Po Box 36614

Richmond, VA 232350000

Date: 3/23/2015

Map Reference: C006-0518/050

Tracking #: 20020970284

Inspector: Randall C. Masters

Phone: (804) 646-6974

Property located at: 5005 Old Midlothian Tpke Tr 102

Building use at time of inspection: _____

A City of Richmond Property Maintenance Inspector inspected the building/structure/dwelling unit specified above on 3/17/2015. The listed violations of the Virginia Maintenance Code (VMC) 2006 as amended and adopted by the City of Richmond Code Section 14-1 were found to exist. The violations cited must be abated by 4/16/2015 or as specified in the Special Orders included in the attached report.

Upon expiration of the abatement date the building/structure/dwelling unit will be re-inspected for code compliance.

Failure to comply with this Notice may result in court action and fines of up to \$2,500.00 per violation if convicted (VMC Section 104.5.6 and VMC Section 104.5.7). In addition, the City may disallow occupancy, placard the structure, or abate the unsafe condition(s). A lien may be attached to the tax bill for administrative fees and any incurred costs, i.e., the cost of abating the unsafe conditions, securing, and/or razing/removing the structure. Please be advised that the City reserves the right, under applicable Spot Blight Abatement laws and policies, to acquire and then demolish this structure if the above violations are not resolved within the time frames provided.

You have the right to appeal this notice. Appeals must be made within fourteen (14) days of receipt of this Notice of Violation. A fee shall accompany your appeal. (VMC Section 106.5)

It is required that the recipient of this notice declare, immediately upon receipt, acceptance or rejection of the terms of this notice. (VMC Section 105.4)

All codes referenced herein are from the Virginia Maintenance Code unless otherwise stated.

If you have questions regarding this Notice of Violation you should contact the inspector between 8:00 a.m. and 9:00 a.m. or between 4:00 p.m. and 5:00 p.m. at the number given above.

Report of Unsafe Conditions

105.1 UF Structure Is Found Unfit, Due To Disrepair, Lack Of Maintenance, Ventilation,

105.1 US

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Appeal No: H01-20020970284

In order for this appeal to be processed the appropriate fee according to the fee schedule must be paid prior to submittal. Appeal fee is non-refundable.

Application for Appeal

I (we) Phillip T. Storey of Legal Aid Justice Center
(name) (mailing address) 1213 E. Broad St., Richmond
23219

respectfully request that the Local Board of Building Code Appeal review the decision made on 3/23/2015 by the Code Official.
(date)

I am appealing the following code section(s): 602.1

Description of Decision Being Appealed: Heating system requirement.

Location of Property Involved: 5005 Old Midlothian Tpke #102

What is the applicant's interest in the property?

☐
☐
☒
☐

owner
contractor
owner's agent
other (explain) _____

Relief Sought: Overturn and declare invalid.

Attach the decision of the Code Official and any other pertinent documents that will be needed to support your position in the appeal. No additional information will be accepted within 14 days of the scheduled hearing. All documentation must be submitted in sets of nine (9).

Signature of Applicant

Filed at Richmond, Virginia, the 9th day of April, 2015.

\$184.00



Appeal No: H01-20020970284

In order for this appeal to be processed the appropriate fee according to the fee schedule must be paid prior to submittal. Appeal fee is non-refundable.

Application for Appeal

I (we) Phillip T. Storey of Legal Aid Justice Center
(name) 1213 E. Broad St., Richmond
(mailing address) 23219

respectfully request that the Local Board of Building Code Appeal review the decision made on 3/23/2015 by the Code Official.
(date)

I am appealing the following code section(s): 105.1 UF

Description of Decision Being Appealed: Heating facilities/
equipment requirement.

Location of Property Involved: 5005 Old Middleham Tpke #102

What is the applicant's interest in the property?

☐
☐
☒
☐

owner
contractor
owner's agent
other (explain) _____

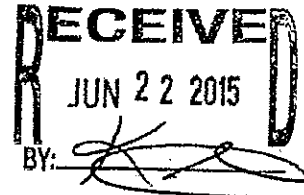
Relief Sought: Overturn and declare invalid.

Attach the decision of the Code Official and any other pertinent documents that will be needed to support your position in the appeal. No additional information will be accepted within 14 days of the scheduled hearing. All documentation must be submitted in sets of nine (9).

Phillip T. Storey
Signature of Applicant

Filed at Richmond, Virginia, the 9th day of April, 20 15

\$184.00



Appeal No: 20020970284

In order for this appeal to be processed the appropriate fee according to the fee schedule must be paid prior to submittal. Appeal fee is non-refundable.

**Amended
Application for Appeal**

I (we) Phillip T. Storey of _____
(name)

Legal Aid Justice Center
123 East Broad Street
Richmond, Virginia 23219
(mailing address)

respectfully request that the Local Board of Building Code Appeal review the decision made on 5/21/2015 by the Code Official.
(date)

I am appealing the following code section(s): 601.2, 603.1

Description of Decision Being Appealed: Heating system requirement

Location of Property Involved: 5005 Old Midlothian Tpke, Lot 102

What is the applicant's interest in the property?

☐
☐
☒
☐

owner
contractor
owner's agent
other (explain) _____

Relief Sought: Overturn and declare invalid.

Attach the decision of the Code Official and any other pertinent documents that will be needed to support your position in the appeal. No additional information will be accepted within 14 days of the scheduled hearing. All documentation must be submitted in sets of nine (9).

Phillip T. Storey
Signature of Applicant

Filed at Richmond, Virginia, the 19th day of June, 2015.



Resolution

WHEREAS, the Local Board of Building Code Appeals is duly appointed to resolve disputes arising out of enforcement of the Virginia Uniform Statewide Building Code and the BOCA National Property Maintenance Code/1996.

WHEREAS, an appeal has been filed and submitted to the board of appeals and

WHEREAS, a hearing has been held to consider the aforementioned appeal; and

WHEREAS, the board has fully deliberated on this matter; now, therefore, be it

RESOLVED, that in the matter of

Appeal No. H01-20020970284 (UF) #102

← CASE #2

In RE: Phillip T. Storey

The decision of the code official is hereby Reversed, for the reasons set out below:

The provisions of the code was not enforced or was not interpreted properly by the code official

The vote was - Uphold 1 Reverse ✓-5 Modify _____

Date 10-July-15 Jr

Signature of Chairman of the Board [Signature]

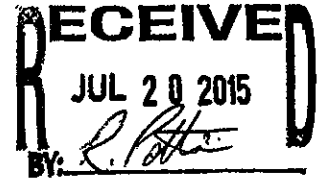
"Upon receipt of this resolution, any person who was a party to the appeal may appeal to the State Building Code Technical Review Board by submitting an application to such Board within 21 calendar days."

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
State Building Codes Office and Office of the State Technical Review Board
Main Street Centre, 600 E. Main Street, Suite 300, Richmond, Virginia 23219
Tel: (804) 371-7150, Fax: (804) 371-7092, Email: alan.mcmahan@dhsd.virginia.gov

APPLICATION FOR ADMINISTRATIVE APPEAL

Regulation Serving as Basis of Appeal (check one):

- ☒ Uniform Statewide Building Code
- ☐ Statewide Fire Prevention Code
- ☐ Industrialized Building Safety Regulations
- ☐ Amusement Device Regulations



Appealing Party Information (name, address, telephone number and email address):

City of Richmond, 900 E. Broad Street, Richmond, VA 23219, (804) 646-6398, john.walsh@richmondgov.com

Opposing Party Information (name, address, telephone number and email address of all other parties):

Phil Storey, 123 E. Broad Street, Richmond, VA 23219, (804) 643-1086, phil@justice4all.org

Additional Information (to be submitted with this application)

- ☐ Copy of enforcement decision being appealed
- ☐ Copy of record and decision of local government appeals board (if applicable and available)
- ☐ Statement of specific relief sought

CERTIFICATE OF SERVICE

I hereby certify that on the 20 day of July, 2015, a completed copy of this application, including the additional information required above, was either mailed, hand delivered, emailed or sent by facsimile to the Office of the State Technical Review Board and to all opposing parties listed.

Note: This application must be received by the Office of the State Technical Review Board within five (5) working days of the date on the above certificate of service for that date to be considered as the filing date of the appeal. If not received within five (5) working days, the date this application is actually received by the Office of the Review Board will be considered to be the filing date.

Signature of Applicant: _____

Name of Applicant: _____

John G. Walsh, Operations MGR, City of Richmond
(please print or type)

Specific Relief Sought

Action:

The City inspector cited a pre-1986 manufactured home as Unfit due in-part to a lack of operating heating facilities. Unit was in place, but completely non-operational.

Appeal Outcome:

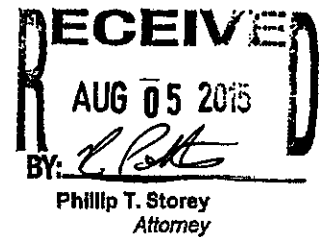
The mobile home owner appealed the decision and claimed that the City of Richmond, by way of its Code Enforcement Division, had miss-interpreted and misapplied section 105.1, and the definition of an Unfit Structure.

The local appeal board ruled in favor of the appellant on two basic points. The first was that the City lacked authority to even conduct an interior inspection of an owner occupied structure, and second there was confusion on whether or not heating facilities are required in the warm months of the year.

Relief Sought:

The City of Richmond asks the Technical Review Board to reverse the decision of the Local Board of Building Code Appeals and reinstate the Unfit elements of the notice related to operational heat requirements as part of the definition of an Unfit Structure.

**LEGAL AID
JUSTICE CENTER**



August 5, 2015

State Building Code Technical Review Board
Main Street Centre
600 E. Main Street, Suite 300
Richmond, VA 23219

Sent by Email: Richard.Potts@dhcd.virginia.gov; Alan.McMahan@dhcd.virginia.gov

Re: Appeal No. 15-13

Dear Review Board Members:

We respectfully submit the attached Memorandum in Opposition to Appeal No. 15-13, City of Richmond v. Storey.

Although we understand this to be a *de novo* appeal, we also wish to inform the Review Board that we dispute the City of Richmond's characterization of the bases for the local appeal board's decision. Having reviewed the audio recording of the local appeal board hearing, we are confident that the decision was *not* based on the issues mentioned by the City in its statement accompanying this appeal, but rather on the legal issues addressed in the enclosed Memorandum.

We look forward to the successful resolution of this matter.

Sincerely,

A handwritten signature in black ink, which appears to be "Phillip T. Storey".

Phillip T. Storey

Encl.

STATE BUILDING CODE TECHNICAL REVIEW BOARD

APPEAL NO. 15-13

CITY OF RICHMOND V. STOREY

APPEAL FILED JULY 20, 2015

MEMORANDUM IN OPPOSITION TO APPEAL

The action at issue in this appeal is the City of Richmond (“the City”) code official’s determination that the subject structure is unfit for human habitation, as defined by the Virginia Maintenance Code (“VMC”) § 202. That determination is communicated by reference to VMC § 105.1 (a “105.1 UF” violation). However, that determination depends on an incorrect interpretation of substantive provisions of the VMC (§ 602.2) that the Board of Housing and Community Development (“Board of Housing”) made an unambiguous policy decision to eliminate.

The City’s imposition, through a determination of unfitness, of a requirement that the Board of Housing intentionally eliminated from the VMC, is a legally unjustifiable effort to substitute its own policy judgment for that of the Board of Housing. The State Building Code Technical Review Board (“Review Board”) should uphold the decision of the Local Board of Building Code Appeals, which overturned the Notice of Violation.

I. THE NOTICE OF VIOLATION

Stated Reason for Unfit Determination

Section 202 of the VMC defines “Structure Unfit for Human Habitation” as the following:

An existing structure determined by the code official to be dangerous to the health, safety and welfare of the occupants of the structure or the public because (i) of the degree to which the structure is in disrepair or lacks maintenance, ventilation, illumination, sanitary or heating facilities or other essential equipment, or (ii) the required plumbing and sanitary facilities are inoperable.

Violation “105.1 UF” in the Notice of Violation (“NOV”) at issue explains, in a “Special Order,” the specific reason the code official finds the structure unfit. It states:

This structure has been inspected and found to be unfit for occupancy due to the following condition(s): Dwelling found without required heating facilities. Heating equipment must be proved and maintained by the owner and must be able to heat all habitable rooms, and bathrooms to at least not less than 65f. ...

The explanation in the Special Order, and the mention of “required heating facilities,” is an obvious reference to VMC § 602.2. That is the only section in the VMC that requires the provision of heat in dwellings. Specifically, § 602.2 states that dwellings subject to its requirements must “maintain of a temperature of not less than 65°F (18°C) in all habitable rooms, bathrooms, and toilet rooms.”

It is thus clear from the Special Order that the basis for finding the structure unfit is the supposed violation of VMC § 602.2. As explained below, however, there is no violation of § 602.2 in this case.

II. VIRGINIA MAINTENANCE CODE HEATING REQUIREMENTS

Applicable Building and Maintenance Codes

The cited violation at issue in this appeal comes from the VMC, which is Part III of the Virginia Uniform Statewide Building Code (“USBC”). The USBC is created and maintained by the Board of Housing pursuant to § 36-98 of the Code of Virginia. Except in very limited situations which do not apply to the issue at hand, the USBC “supersede[s] the building codes and regulations of the counties, municipalities and other political subdivisions and state agencies.”¹

The VMC is based on the International Property Maintenance Code (“IPMC”), a model code of regulations developed and maintained by the International Code Council, Inc.² Most of the substantive provisions in the VMC (chapters 2-8) are incorporated from the IPMC without

¹ Va. Code § 36-98.

² The NOV at issue in this appeal cites the 2006 version of the VMC as authority, but at the time it was issued the 2012 version was in force. All references to the VMC will hereafter refer to the 2012 version.

modification.³ However, the Board of Housing has made certain changes to the text in the chapters incorporated from the IPMC. Those changes are referred to as “state amendments to the IPMC.”⁴ The VMC specifies that “state amendments to the IPMC supersede any provisions of Chapters 2-8 of the IPMC that address the same subject matter and impose differing requirements.”⁵

IPMC Heating Requirements

Chapter 6 of the IPMC covers Mechanical and Electrical Requirements, §602 (and subsections) of which includes the requirements for heating facilities. (See Exhibit 1.) Section 602 begins with subsection 602.1, which states, “Heating facilities shall be provided in structures as required by this section.” The subsections that follow 602.1 define what is “required by this section” (§ 602).

Subsection 602.2 of the IPMC states:

Dwellings shall be provided with heating facilities capable of maintaining a room temperature of 68°F (20°C) in all habitable rooms, bathrooms and toilet rooms based on the winter outdoor design temperature for the locality indicated in Appendix D of the International Plumbing Code. Cooking appliances shall not be used, nor shall portable unvented fuel-burning space heaters be used, as a means to provide required heating.

IPMC § 602.3 further requires landlords of rented dwelling units to provide heat to tenants, as required by lease terms:

Every owner and operator of any building who rents, leases or lets one or more dwelling units or sleeping units on terms, either expressed or implied, to furnish heat to the occupants thereof shall supply heat during the period from [DATE] to [DATE] to maintain a minimum temperature of 68°F (20°C) in all habitable rooms, bathrooms and toilet rooms.

Section 602 of the IPMC (specifically, subsections 602.2 and 602.3) plainly requires heating facilities in all residential occupancies of dwellings, whether rented or owner-occupied.

³ VMC § 101.2.

⁴ VMC § 101.4.

⁵ VMC § 101.6.

VMC Heating Requirements

In drafting the VMC, however, the Board of Housing has chosen to amend IPMC § 602 and its subsections in important ways. Specific to the issue on appeal in this case, VMC § 602.2 requires that landlords of rented dwelling units provide heat to tenants, as required by lease terms.

Every owner and operator of a Group R-2 apartment building or other residential dwelling who rents, leases or lets one or more dwelling unit, rooming unit, dormitory or guestroom on terms, either expressed or implied, to furnish heat to the occupants thereof shall supply heat during the period from October 15 to May 1 to maintain a temperature of not less than 65°F (18°C) in all habitable rooms, bathrooms, and toilet rooms . . .

In amending § 602.2, the Board of Housing eliminated the general requirements found in the IPMC § 602.2, which apply to owner-occupants as well as landlords. (See original change in 1990 version of the VMC, Exhibit 2.) It instead maintains only the landlord-specific requirements of the IPMC § 602.3.

The VMC then inserts, as § 602.2.1, a provision similar to the final sentence of IPMC § 602.2. “In dwelling units subject to Section 602.2, one or more unvented room heaters shall not be used as the sole source of comfort heat in a dwelling unit.” This mention of “dwelling units subject to Section 602.2” is a clear indication that § 602.2 does not apply to all dwelling units.

As noted above, VMC § 101.6 explicitly declares that “state amendments to the IPMC supersede any provisions . . . of the IPMC that address the same subject matter and impose differing requirements.” Because of this, the Board’s elimination of IPMC § 602.2’s requirement that all dwelling units be provided with heat (other than space heaters), including owner-occupied ones, means that the VMC does not require specific heating facilities in owner-occupied dwellings.

The property at issue in this appeal is owner-occupied, not rented. Because VMC § 602.2 does not apply to owner-occupied dwellings, the basis for the code official’s determination that it is unfit for occupancy is legally incorrect and cannot support the determination. An interpretation issued by the State Building Code Technical Review Board confirms this.

III. STATE TECHNICAL REVIEW BOARD INTERPRETATION

Lack of Heating Facilities Not Required by the Code Cannot Support Unfit Determination

The Review Board's Interpretation Number 6/90 (Exhibit 3), which was issued just after the removal of the owner-occupied heating requirement in 1990, addresses whether the absence of a heating system can be considered a health hazard under the provision § 105.3 (at the time, § 103.5) governing unsafe conditions not related to maintenance, if that absence does not violate § 602.2 (formerly PM-601.1).⁶ The Review Board's answer was unambiguous: No.

The finding of unsafe conditions pursuant to VMC § 105.3 is closely analogous to a determination that a structure is unfit for occupancy as defined by VMC § 202. The former applies to "a condition that constitutes a serious and dangerous hazard to life or health." The latter applies to a structure that is "dangerous to the health, safety and welfare of the occupants of the structure or the public."

The relationships between VMC § 602.2's heating requirements, as amended by the Board of Housing, and the unsafe or unfit determinations under VMC §§ 105.3 and 202, are identical. As with the Review Board's Interpretation 6/90, so it is with the basis for the unfit determination in the NOV in this case. Because the Board of Housing eliminated the heating requirement for owner-occupied dwellings, the lack of heat cannot support an unfit determination for an owner-occupied home like this one.

IV. PRINCIPLES OF CONSTRUCTION

Well-Established Legal Principles Govern the Interpretation of Regulations

Courts in Virginia have repeatedly stated that the interpretations administrative agencies give to regulations must be judged "in light of the principles of construction courts normally employ." *Bd. of Supervisors of Culpeper Cnty. v. State Bldg. Code Technical Review Bd.*, 52 Va. App. 460,

⁶ State Building Code Technical Review Board, Interpretations of the 1990 USBC, page 3.

466, 663 S.E.2d 571, 574 (2008). These principles of construction—rules for interpreting ambiguous statutes and regulations—are well established. They include the following.

- a) Substantive changes made to laws or regulations are presumed to be purposeful. Through its determination of unfitness for occupancy, the City seeks to enforce the heating requirement that the Board of Housing eliminated from VMC § 602.2. The City's interpretation assumes that the Board of Housing did not intend for its amendment to change the meaning of the regulation in the way that it obviously did. The Supreme Court of Virginia has stated. "As a general rule, a presumption exists that a substantive change in law was intended by an amendment to an existing statute." *Virginia-American Water Co. v. Prince William County Service Authority*, 246 Va. 509, 517, 436 S.E.2d 618, 622-23 (1993). The City's interpretation of the definition of unfitness in this case would deny the obvious intent of the amendment to VMC § 602.2, contrary to this principle of construction.
- b) When they conflict, specific provisions control over general ones. The definition of an unfit structure is far more general and ambiguous than the clear, specific heating requirements of VMC § 602.2. Principles of construction require that "when one statute [or regulation] speaks to a subject in a general way and another deals with a part of the same subject in a more specific manner, the two should be harmonized, if possible, and where they conflict, the latter [the more specific one] prevails." *Virginia Nat'l Bank v. Harris*, 220 Va. 336, 340, 257 S.E.2d 867, 870 (1979). Under this principle, the interpretation of the (ambiguous) definition of unfitness must be harmonized with the explicit, specific heating requirements of § 602.2. If the two cannot be harmonized, the requirements of § 602.2 must prevail.
- c) Administrative agencies cannot essentially rewrite regulations by interpretation. In general, administrative agencies are afforded some deference to their interpretations of ambiguous regulations they are authorized to administer. But "the administrative power to interpret a regulation does not include the power to rewrite it. When a regulation is not ambiguous, judicial deference to the agency's position would be to permit the agency,

under the guise of interpreting a regulation, to create de facto a new regulation.”” *Bd. of Supervisors of Culpeper Cnty. v. State Bldg. Code Technical Review Bd.*, 52 Va. App. 460, 466-67, 663 S.E.2d 571, 574 (2008) (internal citations and quotations omitted). In this case, the City cannot de facto change the VMC’s heating requirement through its interpretation of the unfit structure definition.

As explained above, the City’s back-door attempt to impose the heating requirement that the Board of Housing intentionally eliminated from the VMC contradicts the principles of construction that must govern the interpretation of regulations. No consistent interpretation of the VMC can support the determination of unfitness in the NOV at issue here.

V. CONCLUSION

The Board of Housing’s amendment to § 602.2 clearly reflects a policy decision to eliminate the heating requirement for owner-occupied dwellings, making it only a landlord-specific provision as opposed to a general provision applicable to landlords and owner-occupants alike. Thus, the City’s position on heating requirements for owner-occupied dwellings ignores the state amendments to the IPMC and is contrary to established principles of statutory construction. Its attempt to use a determination of unfitness, pursuant to VMC §§ 105.1 and 202, to undo the Board of Housing’s amendments to § 602.2 has no valid legal basis. The Review Board should uphold the decision of the Local Board of Building Code Appeals, which overturned the Notice of Violation.



- [International Property Maintenance Code](#)
 - [\[2012 \(Second Printing\) \]](#)
- [Chapter 6 - Mechanical and Electrical Requirements](#)
 - [SECTION 601 GENERAL](#)
 - [SECTION 602 HEATING FACILITIES](#)
 - [SECTION 603 MECHANICAL EQUIPMENT](#)
 - [SECTION 604 ELECTRICAL FACILITIES](#)
 - [SECTION 605 ELECTRICAL EQUIPMENT](#)
 - [SECTION 606 ELEVATORS, ESCALATORS AND DUMBWAITERS](#)
 - [SECTION 607 DUCT SYSTEMS](#)

[602.1 Facilities required.](#)

[602.2 Residential occupancies.](#)

[602.3 Heat supply.](#)

[602.4 Occupiable work spaces.](#)

[602.5 Room temperature measurement.](#)

[602.1 Facilities required.](#)

[602.2 Residential occupancies.](#)

[602.3 Heat supply.](#)

[602.4 Occupiable work spaces.](#)

[602.5 Room temperature measurement.](#)

[Top](#) [Previous Section](#) [Next Section](#) To view the next subsection please select the Next Section option.

SECTION 602 HEATING FACILITIES

602.1 Facilities required.

Heating facilities shall be provided in structures as required by this section.

602.2 Residential occupancies.

Dwellings shall be provided with heating facilities capable of maintaining a room temperature of 68°F (20°C) in all habitable rooms, *bathrooms* and *toilet rooms* based on the winter outdoor design temperature for the locality indicated in Appendix D of the *International Plumbing Code*. Cooking appliances shall not be used, nor shall portable unvented fuel-burning space heaters be used, as a means to provide required heating.

Exception: In areas where the average monthly temperature is above 30°F (-1°C), a minimum temperature of 65°F (18°C) shall be maintained.

602.3 Heat supply.

Every *owner* and *operator* of any building who rents, leases or lets one or more *dwelling units* or *sleeping units* on terms, either expressed or implied, to furnish heat to the *occupants* thereof shall supply heat during the period from [DATE] to [DATE] to maintain a minimum temperature of 68°F (20°C) in all habitable rooms, *bathrooms* and *toilet rooms*.

Exceptions:

1. When the outdoor temperature is below the winter outdoor design temperature for the locality, maintenance of the minimum room temperature shall not be required provided that the heating system is operating at its full design capacity. The winter outdoor design temperature for the locality shall be as indicated in Appendix D of the *International Plumbing Code*.
2. In areas where the average monthly temperature is above 30°F (-1°C) a minimum temperature of 65°F (18°C) shall be maintained.

602.4 Occupiable work spaces.

Indoor occupiable work spaces shall be supplied with heat during the period from [DATE] to [DATE] to maintain a minimum temperature of 65°F (18°C) during the period the spaces are occupied.

Exceptions:

1. Processing, storage and operation areas that require cooling or special temperature conditions.
2. Areas in which persons are primarily engaged in vigorous physical activities.

602.5 Room temperature measurement.

The required room temperatures shall be measured 3 feet (914 mm) above the floor near the center of the room and 2 feet (610 mm) inward from the center of each exterior wall. [Top Previous Section Next Section](#) To view the next subsection please select the Next Section option.

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Final Regulations

7/7/1092

ARTICLE 6.

7. Delete Section ES-201.10.
8. Delete Section ES-201.10.1.
9. Delete Section ES-201.10.2.

(E) Change Section PM-302.12 to read:

PM-302.12 Insect screens: During the period from April 1 to December 1 every door, window and other outside opening required for ventilation purposes serving any building containing habitable rooms, food preparation areas, food service areas, or any areas where products used in food for human consumption are processed, manufactured, packaged or stored, shall be supplied with approved tightly fitting screens of not less than 16 mesh per inch and every swinging door shall have a self-closing device in good working condition.

Exception: Screen doors shall not be required for out-swinging doors or other types of openings which make screening impractical, provided other approved means, such as air curtains or insect repellent fans are employed.

ARTICLE 4

LIGHT, VENTILATION AND SPACE REQUIREMENTS

(A) Change Section ES-401.2 PM-401.1 to read:

ES-401.2. PM-401.1. Habitable spaces: Every habitable space shall have at least one window of approved size facing directly to the outdoors or to a court. The minimum total window area, measured between stops, for every habitable space shall be 4.0% of the floor area of such room, except in kitchens when artificial light may be provided in accordance with the provisions of the building code. Whenever walls or other portions of a structure face a window of any other room and such obstructions are located less than three feet (914 mm) from the window and extend to a level above that of the ceiling of the room, such a window shall not be deemed to face directly to the outdoors nor to a court and shall not be included as contributing to the required minimum total window area for the room.

(B) Delete Section PM-403.10.

ARTICLE 5. PLUMBING FACILITIES AND FIXTURE REQUIREMENTS.

Change section ES-503.5 to read:

ES-503.5. Water conservation: Plumbing fixtures which are replaced shall be of water saving construction and use as required by the energy and plumbing codes listed in the Virginia Uniform Statewide Building Code, Volume I, New Construction.

1. Delete section ES-601.5 Boiler inspections:

Note: See § 36-07(12) of the Code of Virginia for equipment definition.

(A) Change Section PM-601.1 to read:

PM-601.1. Residential buildings: [Every dwelling shall be provided with heating facilities capable of maintaining a room temperature of 65°F (18°C) at a level of 3 feet (914 mm) above the floor and a distance of 3 feet (914 mm) from the exterior walls on all habitable rooms, bathrooms, and toilet rooms based on the outside design temperature required for the locality by the mechanical code listed in Appendix A.] Every owner and operator of any building who rents, leases or lets one or more dwelling unit, rooming unit, dormitory or guest room on terms, either express or implied, to furnish heat to the occupants thereof shall supply sufficient heat during the period from October 1 to May 15 to maintain a room temperature of not less than 65°F (18°C) in all habitable rooms, bathrooms, and toilet rooms during the hours between 6:30 a.m. and 10:30 p.m. of each day and not less than 60°F (16°C) during other hours. The temperature shall be measured at a point 3 feet (914 mm) above the floor and 3 feet (914 mm) from the exterior walls. When the outdoor temperature is below the outdoor design temperature required for the locality by the mechanical code listed in Appendix A, the owner or operator shall not be required to maintain the minimum room temperatures, provided the heating system is operating at full capacity, with supply valves and dampers in a full open position.

(B) Change Section PM-601.2 to read:

PM-601.2. Nonresidential structures: [Every enclosed occupied work space shall be supplied with Every owner of any structure who rents, leases, or lets the structure or any part thereof on terms, either express or implied, to furnish heat to the occupants thereof shall supply sufficient heat during the period from October 1 to May 15 to maintain a temperature of not less than 65°F (18°C) during all working hours. The temperature shall be measured at a point 3 feet (914 mm) above the floor and 3 feet (914 mm) from the exterior walls.

Exceptions

1. Processing, storage and operation areas that require cooling or special temperature conditions.
2. Areas in which persons are primarily engaged in vigorous physical activities.

(C) Add new Section PM-603.3 to read:

PM-603.3. Inspection: Routine and periodic inspections shall be performed in accordance with Part X of ASME A-17.1 listed in Appendix A.

Interpretations of the State Building Code Technical Review Board
Page 1990/3

✓ INTERPRETATION NUMBER: 6/90
Code: USBC, Volume II/1990
Section No(s): PM-601.1

QUESTION #1: Would an existing apartment building with no heating systems be required to provide or install a heating system to maintain the conditions specified in Section PM-601.1 as amended in Volume II of the USBC?

ANSWER #1: No, Section PM-601.1 is applicable only when the terms to furnish heat are expressed in the rental agreement or implied in some other manner.

QUESTION #2: If the answer to the first question is no, could the absence of heating be considered as a health hazard in accordance with Section 103.5 of the USBC, Volume II?

ANSWER #2: No

✓ INTERPRETATION NUMBER: 7/90
Code: USBC, Volume I/1990
Section(s): 110.3 and 2702.3

QUESTION: Are the electrical services to a building (dwelling unit, etc.) required to be hot (power on) for an electrical inspector to perform a final inspection?

ANSWER: Section 2702.3 of the BOCA National Building Code, 1990 Edition, is deleted in accordance with Section 101.2 of the USBC. The local building official is authorized by Section 110.3 of the USBC to perform various inspections of buildings under construction to determine compliance with the provisions of the building code. In accordance with Section 110.3, Item 7, the building official is required to perform a final inspection to insure that all work conforms to the USBC. The building official has authority to require that building electrical systems, components or devices be energized as part of the final inspection.

INTERPRETATION NUMBER: 8/90
Code: USBC, Volume I/1990 - First Amendment
Section No(s): Addendum 1 - 512.2, Addendum 3 - 4.14.1, 4.14.2 and 4.28.2

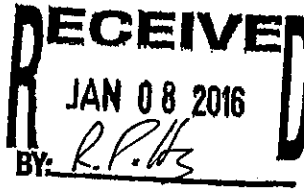
QUESTION #1: An existing building is to be renovated and no change of use will occur. If neither of the existing required exits will be altered in any fashion, must they be made accessible per Section 4.14.2 of Addendum 3?

ANSWER #1: No, the existing exits remain subject to the edition of the USBC under which they were initially constructed, provided there is no change of use.

QUESTION #2: An existing building is to be renovated and no change of use occurs, but an additional exit is required. Is this additional exit required to be made accessible per Section 4.14.2 of Addendum 3?

ANSWER #2: Yes, the construction of additional exits would be subject to the provisions of the 1990 USBC.

**LEGAL AID
JUSTICE CENTER**



Phillip T. Storey
Attorney

January 8, 2016

State Building Code Technical Review Board Staff
Main Street Centre
600 E. Main Street, Suite 300
Richmond, VA 23219

Sent by Email: Richard.Potts@dhcd.virginia.gov; Alan.McMahan@dhcd.virginia.gov

Re: Corrections and Response to Review Board Staff Document, Appeal No. 15-13

Dear Review Board Staff:

Having reviewed the Review Board Staff Document and the Combined Documents for appeal No. 15-13, we respectfully submit the following corrections.

General corrections.

As Mr. Walsh from the City of Richmond pointed out in his email of 1/4/16, the Staff Document identifies the incorrect notice of violation ("NOV") as subject of appeal No.15-13. Appeal No. 15-13 concerns the "unsafe structure" NOV citing for violations of the unfit provisions of VMC § 105.1. As such, the issue raised in this appeal is identical to that raised in Appeal No. 15-12.

Because the NOV's reproduced on pages 1-3 and 8-10 of the Combined Documents are not at issue in Appeal No. 15-13, we ask that the Review Board Staff remove those documents from those presented to the Review Board. Their inclusion could only distract from the narrow issue before the Review Board in this appeal.

Corrections to Staff Document.

Because the issue presented in Appeal No. 15-13 is the same as that in Appeal No. 15-12, the Staff Documents for both appeals should be virtually identical, with the exception of lot numbers and the names of the structures' owners. The following are specific corrections.

1. The original appellant, represented by Mr. Storey, is the owner and occupant of the cited structure (Ingrid Girón de Muñoz), not the owner of the mobile home park (Mobile Towne Partnership).
2. The NOV was *addressed* to the Partnership, but *delivered* to the resident(s) of the cited structure.
3. The most legally relevant representation Mr. Storey made at the informal fact-finding conference is that the structure cited in the NOV is owned and occupied (not leased or rented) by his client. The fact that the owner of the structure does not own the land on which it is located is not legally relevant to the issue on appeal.
4. The issue for resolution by the Review Board is simply whether to overturn the decision of the local appeals board and hold that *the violation* of VMC § 105.1's unfit provision exists *as described in the NOV*. (The issue is not whether *any* violation exists, but whether the specific violation cited in the NOV is valid.) It is undisputed that the owner of the structure is the one responsible for bringing the structure into compliance with the VMC.

We thank the Review Board Staff for its care in presenting this matter for the Board's review. Please feel free to contact us for any clarifications or with any concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Phillip T. Storey", with a stylized, flowing script.

Phillip T. Storey

Commonwealth of Virginia

2016 State Building Code Technical Review Board Calendar

State Holidays

January 1

New Year's Day

January 15

Lee-Jackson Day

January 18

Martin Luther King, Jr. Day

February 15

George Washington Day

May 30

Memorial Day

July 4

Independence Day

September 5

Labor Day

October 10

Columbus Day

November 11

Veterans Day

November 23

4 hours additional holiday time

November 24

Thanksgiving

November 25

Day After Thanksgiving

December 23

8 hours additional holiday time

December 26

Christmas (observed)

Please note: In some agencies, the holiday and payday schedule may vary from what is shown here. If you have questions, see your agency human resources officer.

Denotes Review Board meeting

Denotes Holiday

Denotes Additional Time Off

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January

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31						

February

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